TPOs filed between December 2018 and April 2020

Below is an Annex containing summaries of TPOs filed between December 2018 and April 2020 with respect to PCT applications relevant to HIV, HCV and TB. The Annex will feature in our upcoming report documenting a one-year experience of using the TPO system.

Note:

TPO No. refers to publisher's internal reference number.

Appl. No. provides information on the International Application No. and the Publication Number. National phase as of 07.10.2022 reflects information provided on WIPO's PATENTSCOPE database as at that date. However, this data is dynamic and may not provide accurate information on the actual status of the patent application.

Annex 1: Case Summaries

TABLE OF CONTENTS

Part A: Case Summaries – HIV Applications	3
Part B: Case Summaries – HCV Applications	32
PART C: Case Summaries: TB Applications	<u>59</u>
PART D: Case Summaries: Applications claiming HIV, HCV and TB treatments	<u>76</u>
PART E: Case Summaries: Applications claiming HIV and TB treatments	88
PART F: Case Summaries: Applications claiming HIV and HCV treatments	90

Part A: Case Summaries – HIV Applications

TPO No. ¹	8			
Appl. No. ²	PCT/IB2018/050021: WO2018127800			
Link to Appl.	https://patentscope.wi	po.int/search/en/detail	.jsf?docId=WO20181	<u>27800</u>
Applicants	ViiV Healthcare UK (No. 5) Limited		
Priority Date	03.01.2017			
Details	This application claim	s pyridin-3-yl acetic a	acid derivatives for the	treatment of HIV.
Claims	The application has 10	6 claims, of which 3 a	re independent claims	and 13 are dependent.
	One Markush structur	e is claimed. Overall,	, there are 2 specific c	compounds included in
	the claims. Of the 16	claims, 7 are secondar	ry claims, 4 are formul	lation claims and 3 use
	claims and 2 are for m	nethods of treatment. T	Two of the claims inclu	ude combinations.
	Of the 4 formulation	claims, 1 claim is for	a composition claim	per se, 1 claim is for a
	composition of a com	bination per se and 2 c	claims are method of tr	reatment claims. Of the
	2 combination claims,	, I claim overlaps with	n formulation claims (as it is for composition
	of combination) and I	claim overlaps with i	nethod of treatment cl	aims. The 2 method of
	treatment claims both	overlap with formula	tion claims.	
ISR	The ISR cited 5 docur	ments as prior art. Of t	hese 1 was X and 4 w	vere PX documents
TPO	The TPO cited 4 prior	r art documents: all 4	challenged both nove	Ity and inventive step
	Three of the prior art of	documents were paten	t documents and 1 wa	s a periodical
Date of	The TPO was filed on	03.05.2019		
Filing of		0010012017		
TPO				
National	Office	Entry Date	National Number	National Status
Phase as of	United States of	30.05.2019	16465199	Published
$07.10.2022^3$	America			20.02.2020
	Japan	02.07.2019	2019536131	
	EPO	05.08.2019	2018700949	Withdrawn
				13.10.2020

 ¹ TPO No. refers to publisher's internal reference number
 ² Appl. No. provides information on the International Application No. and the Publication Number
 ³ National phase as of 07.10.2022 reflects information provided on WIPO's patentscope database as at that date. However, this data is dynamic and may not provide accurate information on the actual status of the patent application.

TPO No.	9			
Appl. No.	PCT/IB2018/050022 : WO2018127801			
Link to Appl.	https://patentscope.wi	po.int/search/en/detai	1.jsf?docId=WO20181	<u>27801</u>
Applicants	ViiV Healthcare UK (No. 5) Limited		
Priority Date	03.01.2017			
Details	The application also c The only difference is monocyclic and bicyc WO'800 and is specif	laims pyridin-3-yl acc in the Markush scaff clic rings can be sub ically claimed to be is	etic acid derivatives fo folds of WO'800 and stituted at position 4 soquinoline (bicyclic)	r the treatment of HIV. WO'801 is that both of the pyridine ring in ring in WO'801.
Claims	The application has 12 One Markush structur claims, 7 are secondar methods of treatment. Of the 4 formulation composition of a coml 2 combination claims, of combination) and 1 treatment claims both	2 claims, of which 1 i re is claimed but no ry claims, 4 are form Two of the claims in claims, 1 claim is for bination per se and 2 o 1 claim overlaps wit claim overlaps with overlap with formula	s an independent claim specific compounds a ulation claims and 3 u clude combinations. • a composition claim claims are method of th h formulation claims (method of treatment cl tion claims.	and 11 are dependent. are claimed. Of the 12 se claims and 2 are for per se, 1 claim is for a reatment claims. Of the as it is for composition laims. The 2 method of
ISR	The ISR cited 5 docur	ments as prior art Of	these 1 was A and 4 w	vere PX documents
ТРО	The TPO cited 4 prior Three of the prior art of	r art documents; all 4 documents were pater	challenged both nove t documents and 1 wa	elty and inventive step. s a periodical.
Date of Filing of TPO	The TPO was filed on	03.05.2019		
National	Office	Entry Date	National Number	National Status
Phase as of 07.10.2022	United States of America	31.05.2019	16465622	Published 16.01.2020
	Japan	02.07.2019	2019536189	
	EPO	05.08.2019	2018700950	

TPO No.	10			
Appl. No.	PCT/US2018/012098	: WO2018128993		
Link to Appl.	https://patentscope.wi	po.int/search/en/detail	.jsf?docId=WO20181	<u>28993</u>
Applicants	OyaGen, Inc.			
Priority Date	04.01.2017			
Details	The application cover association of Viral In pharmaceutical comp APOBEC3G activity compounds specifical compounds and have compositions are claim analogue of irinotecan claims compositions of	s pharmaceutical com fectivity Factor (Vif) osition of compound or cause RNA muta lly listed and claime been sourced from end belong to the class n) which are known to of these compounds for	position of compound in HIV-infected cells. s that inhibit Vif sel tions that produce de ed as having this ac other entities. The 3 of camptothecins (one to have anti-cancer ac r anti-HIV activity.	ds that inhibit the self- The application claims f-association, enhance fective virions. The 3 ctivity are all known compounds for which e of which is a modified tivity. The application
Claims	The application has 23 All 23 claims are second Markush structures cl combinations.	3 claims, of which 5 a ondary claims, of wh aimed. There are 3 n	re independent claims ich 22 are formulation nethod of treatment cl	and 18 are dependent. n claims. There are no aims, 7 claims are for
	The applicant claims compounds, their salt compounds or the proo- per se and 2 overlap claims, 1 is a method combination claims. C 2 overlap with metho application are charace are characterised by m are counted as "Other	pharmaceutical com ts and prodrug of 1 drug per se. Of the 22 f with method of treat of treatment claimed of the 7 combination c od of treatment claim terised by the mechar nechanism of action.	apositions of specific of them. The application formulation claims, 20 ment claims. Of the l per se and 2 overlap laims, 5 overlap with as. All of the 5 indep hism of action. Severa However, for this app	isomeric forms of 3 nt does not claim the are for the composition 3 method of treatment o with formulation and formulation claims and pendent claims in this 1 dependent claims too olication, none of these
ISR	The ISR cited 8 docur ISR, the document list	ments as prior art. Of ted for novelty (X) wa	these, 1 was AX, 2 we as also listed for invent	ere Y, 5 were A. In the tive step (Y).
ТРО	The TPO cited 5 prior while 4 prior art docur art documents was a p	art documents; 1 prior ments challenged both atent document and 4	r art document challen n novelty and inventive were periodicals.	ged only inventive step e step. One of the prior
Date of Filing of TPO	The TPO was filed on	06.05.2019		
National	Office	Entry Date	National Number	National Status
Phase as of	Canada	12.06.2019	3047000	
07.10.2022	United States of America	04.07.2019	16476094	Published 21.11.2019 Granted 14.09.2021
	EPO	05.08.2019	2018736145	1.109.2021
				1]

TPO No.	12			
Appl. No.	PCT/US2018/014761	: WO2018140368		
Link to Appl.	https://patentscope.wi	po.int/search/en/detail	.jsf?docId=WO201814	40368
Applicants	Merck Sharpe & Dohn	me Corp		
Priority Date	26.01.2017	-		
Details	The application covers application claims provery similar to establi 2 nitrogen atoms in the in the application has ring.	s a substituted quinoliz odrugs of an already shed carbamoyl pyride e saturated ring attache only 1 nitrogen atom i	tine derivative for the t known molecule. This ones such as dolutegra ed to the pyridine ring n the saturated ring att	reatment of HIV. The s known molecule is wir. Dolutegravir has whereas the molecule ached to the pyridine
Claims	The application has 17 All 17 claims are sec- claims covering differ There are 2 claims combinations. The application claim a Markush structure (basic molecule), the Markush structure. As claims and also as "of composition per se an treatment claims, 1 cc claims, 1 claim overla of treatment claim.	v claims, of which 1 is ondary claims, of whi ent forms like salts etc for use, 3 method o s prodrugs of a known Formula I). Because t claim for the Markus all 17 claims relate to ther forms" claims. Of d 1 claim overlaps with laim overlaps with a ups with a formulation	an independent claim a ich 2 are formulation c. There are no Markus f treatment claims an n compound. The prod the claims all relate to the claims all relate to th structure of prodru prodrugs, these are all f the 2 formulation claim th a combination claim. C claim and 1 claim ov	and 16 are dependent. claims. There are 17 sh structures claimed. and 2 claims are for rug is represented by prodrugs (and not a gs is not counted as counted as secondary aims, 1 claim is for a a. Of the 3 method of of the 2 combination erlaps with a method
ISR	The ISR cited 4 docur	nents as prior art, all o	of which are A docume	ents.
TPO	The TPO cited 7 pri challenged both novel documents and 5 were	or art documents, of ty and inventive step. e periodicals.	which 5 challenged Two of the prior art do	only novelty and 2 ocuments were patent
of TPO	The TPO was filed on	23.03.2019		
National Phase	Office	Entry Date	National Number	National Status
as of 07.10.2022	United States of America	23.07.2019	16479997	Published 05.12.2020 Granted 29.09.2020
	EPO	26.08.2019	2018744124	

	1			
TPO No.	13			
Appl. No.	PCT/US2018/015502	: WO2018140762		
Link to Appl.	https://patentscope.wi	po.int/search/en/detai	1.jsf?docId=WO20181	40762
Applicants	Institute for Cancer Re	esearch d.b.a The Res	earch Institute of Fox	Chase Cancer Center
Priority Date	26.01.2017			
Details	The application cover applicant followed a described in a prior a with a specific activi compounds from the into two scaffolds and	rs a method for inhil procedure of screer rt patent document by ty for treatment of H commercial library th claimed them for the	biting HIV-1 integrase ning a commercial li y the applicant itself the HIV. On doing so, the nat exhibited such act treatment of HIV.	e multimerisation. The brary which has been to discover compounds e applicant discovered ivity, categorised them
Claims	The application has 42 All 42 claims are seco method of treatment c All claims are drafted treatment of HIV with included in columns P method of inhibiting F claims overlap with m	2 claims, of which 2 a ondary claims, of which laims. 1 as method of treatm n 2 Markush structure 2 and Q as the application HIV-1 multimerisation bethod of treatment cla	The independent claims of 2 are formulation claims the 2 are formulation claims. The appli- tion claims. The appli- tion itself is a seconda the vith claimed compou- taims.	s and 40 are dependent. aims. All 42 claims are acant claims method of npounds. These are not ry application claiming inds. The 2 formulation
ISR	The ISR cited 3 docur	nents as prior art. Of	these, 2 were Y, 1 was	. А.
ТРО	The TPO cited 4 prior Two of the prior art d novelty and inventive were periodicals.	art documents, of wl ocuments challenged step. Two of the prior	hich 1 was a documen only inventive step ar r art documents were p	t also cited by the ISR. ad two challenged both patent documents and 2
Date of Filing of TPO	The TPO was filed on	27.05.2019		
National	Office	Entry Date	National Number	National Status
Phase as of	United States of	24.07.2019	16480624	Published
07.10.2022	America			19.12.2019
				Granted
				12.01.2021

TPO No.	14				
Appl. No.	PCT/US2018/015770): WO2018144390			
Link to Appl.	https://patentscope.w	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018144390			
Applicants	Gilead Sciences Inc.				
Priority Date	31.01.2017				
Details	The application cover treatment of HIV. T (NRTI).	ers crystalline form he basic molecule	is of a known drug ten is a nucleoside reverse	nofovir alafenamide for e transcriptase inhibitor	
	The application clai hemipamoate-I, II, se forms.	ms crystalline forn ebacate-I, napsylate	ns of salts of tenofov. -I, orotate-I, II, III, var	ir alafenamide such as nillate, bisxenofoate salt	
Claims	The application has 7 All 76 claims are sec cover various forms of There are 4 claims combinations. Of the 12 formulatio combinations. As all counted as secondar	6 claims, of which condary claims, of w of tenofovir alafenar for use, 6 claims n claims, 8 claims a 76 claims relate to y claims and also	2 are independent claim which 12 are formulation mide such as salts and c for method of treatm are for composition per o salts and their crystall as "other forms" claim	as and 74 are dependent. on claims. All 76 claims rystalline forms thereof. nent and 4 claims for se and 4 claims are for line forms, these are all as. Of the 6 method of	
	treatment claims, 4 and 4 combination claims	re for method of trea are drafted as form	atment per se and 2 over ulation claims.	rlap with use claims. All	
ISR	The ISR cited 4 docur 2 of the documents listed	ments as prior art. O sted for novelty (X for inventive step (Y	If these, 2 were X, 1 was) were also listed for inI document was also	Y, 1 was A. In the ISR, ventive step (Y), and of a A document.	
ΤΡΟ	The TPO cited 7 prid inventive step and the documents were pate citation 4, a (machine document) was uploa	or art documents. For ree challenged both nt documents, 2 wer) translated version is ded.	our of the prior art doc novelty and inventive s re periodicals and 1 was in English of the Korean	uments challenged only tep. Four of the prior art a book. In the TPO, for patent (i.e., 1 additional	
Date of Filing of TPO	The TPO was filed on	n 31.05.2019			
National	Office	Entry Date	National Number	National Status	
Phase as of 07.10.2022	Australia	26.06.2019	2018216738	Published 11.07.2019	
	Canada	28.06.2019	3049028	Divisional 15.08.2022	
	Japan	29.07.2019	2019541123		
	China	30.07.2019	201880009292.1	Published: 13.09.2019	
	India	08.08.2019	201917032116		
	Republic of Korea	28.08.2018	1020217024440		
			1020217034440	Divisional 23.04.2021 Published 05.11.2021 Refused 05.08.2022	

Appl. No. PCT/US2018/016893 : WO2018145021 Link to Appl. https://patcentiscope.wipo.int/scarch/en/detail_jsf?docId=WO2018145021 Applicants Gilead Sciences Inc. Priority Date 06.02.2017 Details The application covers atazanavir analogues (i.e., protease inhibitors) for treating HIV infection. The application tas 101 claims, of which 2 are independent claims and 99 ure dependent. The claims cover 6 Markush structures and 246 specific compounds. There are 43 secondary claims. of which 12 are formulation claims. There is 1 claim for dosage, 20 for use, 12 method of treatment claims and 40 claims for combinations. Of the 6 Markush structures, 1 is the main Markush structure and the other 5 are derivative Markush structures. The dosage claim is a unitary dosage claim that is drafted as a use claim. Of the 40 combination claims, 11 claims overlap with the pharmaceutical composition claims, 11 overlap with the method of treatment claims and 18 overlap with the use claims. TRN The TSR cited 2 documents as prior art. Of these, 1 was X, 1 was A. TPO The TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents, including 2 that were also cited in the ISR. Three periodicals (Two additional periodical documents were plet documents and 2 were periodicals. (Two additional periodical documents were plet documents and 2 were periodicals. (Two additional periodical documents were plet documents and 2 were periodicals. (Two additional periodical documents were plet documents and 2 were periodicals. (Two additional periodical documents were plet documents a	TPO No.	16			
Link to Appl. https:/patentscope.wipo.int/search/en/defail.jsf?docld=WO2018145021 Applicants Gilead Sciences Inc. Priority Date 06.02.2017 Details The application covers atazanavir analogues (i.e., protease inhibitors) for treating HIV infection. Claims The application has 101 claims, of which 2 are independent claims and 99 are dependent. The claims cover 6 Markush structures and 246 specific compounds. There are 43 secondary claims, of which 12 are formulation claims. There is 1 claim for dosage, 20 for use, 12 method of treatment claims and 40 claims for combinations. Of the 6 Markush structures, 1 is the main Markush structure and the other 5 are derivative Markush structures. The dosage claim in tha is drafted as a use claim. Of the 40 combination claims, 11 claims overlap with the pharmaceutical composition claims, 11 overlap with the method of treatment claims and 18 overlap with the use claims. ISR The ISR cited 2 documents as prior art. Of these, 1 was X, 1 was A. TPO The TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents were patent documents and 2 were periodical. (Two additional periodical documents were filed along with the first periodical clainton uploaded in the TPO.) Date of Fling of TPO The TPO was filed on 06.06.2019 Fling of TPO The TPO was filed on 06.06.2019 National Markush are also as a structure and the status Office Entry Date Matio	Appl. No.	PCT/US2018/016893 : WO2018145021			
Applicants Gilead Sciences Inc. Priority Date 06.02.2017 Details The application covers atazanavir analogues (i.e., protease inhibitors) for treating HIV infection. Claims The application has 101 claims, of which 2 are independent claims and 99 are dependent. The chaims cover 6 Markush structures and 246 specific conpounds. There are 43 secondary claims, of which 12 are formulation claims. There is 1 claim for dosage, 20 for use, 12 method of treatment claims and 40 claims for combinations. Of the 6 Markush structures, 1 is the main Markush structure and the other 5 are derivative Markush structures. The dosage claim is a unitary dosage claim that is drafted as a use claim. Of the 40 combination claims, 11 claims overlap with the pharmaceulic composition claims, 11 overlap with the method of treatment claims and 18 overlap with the use claims. ISR The ISR cited 2 documents as prior art. Of these, 1 was X, 1 was A. TPO The TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents where pattent documents and 2 were periodicals. (Two additional periodical documents were repatent documents and 2 were periodical (tation uploaded in the TPO.) Date of Filing of TPO The TPO was filed on 06.06.2019 The TPO was filed on 06.06.2019 2018215546 Published 31.07.2019 205282 Australia 31.07.2019 2120907058T Mexico 0.208.2019 0.018	Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018145021			
Priority Date 06.02.2017 Details The application covers atazanavir analogues (i.e., protease inhibitors) for treating HIV infection. Claims The application has 101 claims, of which 2 are independent claims and 99 are dependent. The claims cover 6 Markush structures and 246 specific compounds. There are 43 secondary claims, of which 12 are formulation claims. There is 1 claim for dosage, 20 for use, 12 method of treatment claims and 40 claims for combinations. Of the 6 Markush structures, 1 is the main Markush structure and the other 5 are derivative Markush structures. The dosage claim is a unitary dosage claim that is drafted as a use claim. Of the 40 combination claims, 11 claims overlap with the pharmaceutical composition claims, 11 overlap with the method of treatment claims and 18 overlap with the use claims. ISR The ISR cited 2 documents as prior art. Of these, 1 was X, 1 was A. TPO The TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior and documents challenged only inventive step and 3 challenged both novelly and inventive step. Four of the prior art documents were filed along with the first periodical claiton uploaded in the TPO.) Date of 07.10.2022 The TPO was filed on 06.06.2019 Phase as of 07.10.2022 Office Entry Date National Number National Status Phase as of 07.10.2022 Israel 25.07.2019 20515x8 Granted 10.7.2019 11201907058T Maxical	Applicants	Gilead Sciences Inc.			
Details The application covers atazanavir analogues (i.e., protease inhibitors) for treating HIV infection. Claims The application has 101 claims, of which 2 are independent claims and 99 are dependent. The claims cover 6 Markush structures and 246 specific compounds. There as 43 secondary claims, of which 12 are formulation claims. There is 1 claim for dosage, 20 for use, 12 method of treatment claims and 40 claims for combinations. Of the 6 Markush structures. The dosage claim is a unitary dosage claim that is darfated as a use claim. Of the 40 combination claims, 11 claims overlap with the pharmaceutical composition claims, 11 overlap with the method of treatment claims and 18 overlap with the use claims. TR The ISR cited 2 documents as prior art. Of these, 1 was X, 1 was A. TPO The TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents challenged only inventive step and 3 challenged both novelly and inventive step. Four of the prior art documents were filed along with the first periodical citation uploaded in the TPO.) Date of TPO The TPO was filed on 06.06.2019 Filing of 07.10.2022 Office Entry Date National Number National 30.08.2019 New Zealand 31.07.2019 2018215546 Published 22.08.2019 Juivisonal 30.08.2018 New Zealand 31.07.2019 11201907058T Published 19.09.2019 Juivisonal 30.08.2019 Juivisional 30.08.2019 Juivisonal 30.08.20	Priority Date	06.02.2017			
Claims The application has 101 claims, of which 2 are independent claims and 99 are dependent. The claims cover 6 Markush structures and 246 specific compounds. There are 43 secondary claims, of which 12 are formulation claims. There is 1 claim for dosage, 20 for use, 12 method of treatment claims and 40 claims for combinations. Of the 6 Markush structures, 1 is the main Markush structure and the other 5 are derivative Markush structures. The dosage claim is a unitary dosage claim that is drafted as a use claim. Of the 40 combination claims, 11 claims overlap with the pharmaceutical composition claims, 11 overlap with the method of treatment claims and 18 overlap with the use claims. ISR The ISR cited 2 documents as prior art. Of these, 1 was X, 1 was A. TPO The TDP cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents, including 2 that were patent documents and 2 were periodical. Clave additional periodical documents were patent documents and 2 were periodical. Clave additional periodical documents were patent documents and 2 were periodical. Clave additional periodical documents were patent documents and 2 were periodical. Clave addition addition 25:07:2019 Date of The TPO was filed on 06.06.2019 The TPO was filed on 06.06.2019 Israel 25:07:2019 268282 Australia 31:07:2019 2018215546 Published 22:08:2019 New Zealand 31:07:2019 755929 Divisional 90:01:03:018 30:03:2019 NA/va/2019/00221 Published 19:09:2019 <td>Details</td> <td>The application cover infection.</td> <td>ers atazanavir analogu</td> <td>ues (i.e., protease inhi</td> <td>bitors) for treating HIV</td>	Details	The application cover infection.	ers atazanavir analogu	ues (i.e., protease inhi	bitors) for treating HIV
ISRThe ISR cited 2 documents as prior art. Of these, 1 was X, 1 was A.TPOThe TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents challenged only inventive step and 3 challenged both novelty and inventive step. Four of the priodical documents were failed along with the first periodical. (Two additional periodical documents were filed along with the first periodical citation uploaded in the TPO.)Date of Filing of TPOThe TPO was filed on 06.06.2019National NumberNational Status (Granted 2.00.2019)National Phase as of 07.10.2022OfficeEntry DateNational NumberNational Status (Granted 2.0.8.2019)National Phase as of 07.10.2022OfficeEntry DateNational Status (Granted 2.0.8.2019)Granted 2.0.8.2019National Phase as of 07.10.202231.07.2019268282Image: Status 2.0.8.2019Image: Status 2.0.8.2019New Zealand31.07.2019755929Divisional 30.0.8.2018 Published 13.05.2021 Granted 30.11.2021Image: Status 30.01.2021Singapore31.07.201911201907058TImage: Status MX/a/2019/00921Published 19.09.2019Dominican Republic05.08.2019CR2019-000354 2019000201Published 19.09.2019Japan05.08.20192019542392Image: Status 2019542392Peru05.08.20192019000201 201901786Published 29.01.2020 Granted 30.04.2022India09.08.2019201991684 29.01.2020 Granted 30.04.2022	Claims	The application has 1 The claims cover 6 secondary claims, of use, 12 method of tre Of the 6 Markush stru Markush structures. claim. Of the 40 c composition claims, the use claims.	101 claims, of which 2 Markush structures which 12 are formula eatment claims and 40 uctures, 1 is the main N The dosage claim is a combination claims, 11 overlap with the m	are independent clain and 246 specific con tion claims. There is 1 claims for combination Markush structure and a unitary dosage claim 11 claims overlap we bethod of treatment cla	ns and 99 are dependent. npounds. There are 43 claim for dosage, 20 for ons. the other 5 are derivative in that is drafted as a use with the pharmaceutical ims and 18 overlap with
TPOThe TPO cited 6 prior art documents, including 2 that were also cited in the ISR. Three of the prior art documents challenged only inventive step and 3 challenged both novelty and inventive step. Four of the prior art documents were filed along with the first periodical citation uploaded in the TPO.)Date of Filing of TPOThe TPO was filed on 06.06.2019National NumberNational StatusPhase as of 07.10.2022OfficeEntry DateNational NumberNational StatusPhase as of 07.10.2022Israel25.07.20192051588CrantedNational25.07.2019268282PublishedAustralia31.07.20192018215546Published2.08.2019New Zealand31.07.2019755929Divisional30.08.2018Published13.05.2021GrantedSingapore31.07.201911201907058TPublishedMexico02.08.2019MX/a/2019/00921Published19.09.2019Dominican05.08.2019CR2019-000354Published19.09.20192019000201Published19.09.201919.09.2019Dominican05.08.20192019542392PeruPeru05.08.2019201950786Eurasian Patent09.08.2019201991684Published19.09.2019120190078618.09.201919.09.20191201900178618.09.201919.09.20191201950178618.09.201919.09.20191201950178618.09.201919.01.2020Granted29.01.202019.01.2020120190178618.09.202010.	ISR	The ISR cited 2 docu	ments as prior art. Of	these, 1 was X, 1 was	A.
TPO National Phase as of 07.10.2022 Office Entry Date National Number National Status Israel 25.07.2019 3051588 Granted 23.08.2022 Israel 25.07.2019 268282 Australia 31.07.2019 2018215546 Published 22.08.2019 New Zealand 31.07.2019 755929 Divisional 30.08.2018 Published 13.05.2021 Granted 23.018 90181564 Singapore 31.07.2019 11201907058T Published 30.01.2021 Mexico 02.08.2019 MX/a/2019/00921 Published 90.2019 Costa Rica 05.08.2019 CR2019-000354 Published 19.09.2019 Dominican 05.08.2019 2019542392 Peru Peru 05.08.2019 2019542392 Published 30.08.2019 Peru 05.08.2019 12019501786 18.09.2019 Philippines 05.08.2019 201991684 29.01.2020 Granted 30.04.2022 India 09.08.2019 201917032272 14018	TPO Date of Filing of	The TPO cited 6 prior of the prior art docur and inventive step. I periodicals. (Two a periodical citation up The TPO was filed o	or art documents, incl ments challenged only Four of the prior art d additional periodical bloaded in the TPO.) n 06.06.2019	uding 2 that were also v inventive step and 3 locuments were patent documents were file	cited in the ISR. Three challenged both novelty t documents and 2 were d along with the first
National Phase as of 07.10.2022 Office Entry Date National Number National Status Canada 25.07.2019 3051588 Granted 23.08.2022 Israel 25.07.2019 268282 Australia 31.07.2019 2018215546 Published 22.08.2019 New Zealand 31.07.2019 755929 Divisional 30.08.2018 Published 13.05.2021 Granted 30.11.2021 Singapore 31.07.2019 11201907058T Mexico 02.08.2019 MX/a/2019/00921 Published 19.09.2019 Costa Rica 05.08.2019 CR2019-000354 Published 19.09.2019 Dominican 05.08.2019 DOP2019000201 Published 19.09.2019 Japan 05.08.2019 2019542392 Published 18.09.2019 Peru 05.08.2019 12019501786 18.09.2019 Philippines 05.08.2019 201951786 29.01.2020 Granted 30.04.2022 10dia 09.08.2019 201991684 Published 29.01.2020	TPO				
Phase as of 07.10.2022 Canada 25.07.2019 3051588 Granted 23.08.2022 Israel 25.07.2019 268282 Published Australia 31.07.2019 2018215546 Published New Zealand 31.07.2019 755929 Divisional 30.08.2018 Published 13.05.2021 Granted Singapore 31.07.2019 11201907058T Mexico Mexico 02.08.2019 MX/a/2019/00921 Published Costa Rica 05.08.2019 CR2019-000354 Published Japan 05.08.2019 2019542392 Peru Peru 05.08.2019 12019501786 18.09.2019 Philippines 05.08.2019 201951786 29.01.2020 Philippines 05.08.2019 201991684 Published Is.09.2019 Pinilished 29.01.2020 29.01.2020 India 09.08.2019 201917032272 201917032272	National	Office	Entry Date	National Number	National Status
Israel 25.07.2019 268282 Australia 31.07.2019 2018215546 Published New Zealand 31.07.2019 755929 Divisional New Zealand 31.07.2019 755929 Divisional Singapore 31.07.2019 11201907058T Granted Mexico 02.08.2019 MX/a/2019/00921 Published Costa Rica 05.08.2019 CR2019-000354 Published Dominican 05.08.2019 DOP2019000201 Published Japan 05.08.2019 2019542392 Peru Peru 05.08.2019 12019501786 18.09.2019 Philippines 05.08.2019 201991684 Published Organization 09.08.2019 201991684 Published 29.01.2020 Granted 30.04.2022 104ia	Phase as of 07.10.2022	Canada	25.07.2019	<u>3051588</u>	Granted 23.08.2022
Australia 31.07.2019 2018215546 Published 22.08.2019 New Zealand 31.07.2019 755929 Divisional 30.08.2018 Published 13.05.2021 Granted Granted 30.11.2021 Singapore 31.07.2019 11201907058T Mexico 02.08.2019 MX/a/2019/00921 Published 9.01.1.2021 Costa Rica 05.08.2019 CR2019-000354 Published 19.09.2019 Dominican 05.08.2019 DOP2019000201 Published 30.08.2019 Japan 05.08.2019 2019542392 Peru 9.001536-2019 18.09.2019 Philippines 05.08.2019 12019501786 18.09.2019 18.09.2019 Philippines 05.08.2019 201991684 Published 29.01.2020 Granted 30.04.2022 Janted 30.04.2022 30.04.2022		Israel	25.07.2019	<u>268282</u>	
New Zealand 31.07.2019 755929 Divisional 30.08.2018 Published 13.05.2021 Granted 30.11.2021 Singapore 31.07.2019 11201907058T Mexico 02.08.2019 MX/a/2019/00921 2 Published 19.09.2019 Costa Rica 05.08.2019 CR2019-000354 Published 19.09.2019 Dominican Republic 05.08.2019 DOP2019000201 Published 19.09.2019 Japan 05.08.2019 2019542392 Published 18.09.2019 Peru 05.08.2019 001536-2019 Published 18.09.2019 Philippines 05.08.2019 2019542392 Published 18.09.2019 Philippines 05.08.2019 2019501786 20.01.2020 Granted 30.04.2022 India 09.08.2019 201991684 Published 29.01.2020 Granted 30.04.2022		Australia	31.07.2019	2018215546	Published 22.08.2019
Singapore 31.07.2019 11201907058T Mexico 02.08.2019 MX/a/2019/00921 Published 2 07.10.2019 07.10.2019 Costa Rica 05.08.2019 CR2019-000354 Published 19.09.2019 Dominican 05.08.2019 DOP2019000201 Published Republic 05.08.2019 DOP2019000201 Published 30.08.2019 Japan 05.08.2019 2019542392 Peru 30.08.2019 18.09.2019 Peru 05.08.2019 001536-2019 Published 18.09.2019 Philippines 05.08.2019 12019501786 Caranted 30.04.2022 India 09.08.2019 201917032272 Granted 30.04.2022		New Zealand	31.07.2019	755929	Divisional 30.08.2018 Published 13.05.2021 Granted 30.11.2021
Mexico 02.08.2019 MX/a/2019/00921 Published Costa Rica 05.08.2019 CR2019-000354 Published Dominican 05.08.2019 DOP2019000201 Published Republic 05.08.2019 DOP2019000201 Published Japan 05.08.2019 2019542392 Peru Peru 05.08.2019 001536-2019 Published Philippines 05.08.2019 12019501786 18.09.2019 Philippines 05.08.2019 201991684 Published Organization 09.08.2019 201991684 Published India 09.08.2019 201917032272 14.04.2022		Singapore	31.07.2019	11201907058T	
Costa Rica 05.08.2019 CR2019-000354 Published 19.09.2019 Dominican Republic 05.08.2019 DOP2019000201 Published 30.08.2019 Japan 05.08.2019 2019542392 Peru 05.08.2019 001536-2019 Published 18.09.2019 Philippines 05.08.2019 12019501786 Eurasian Patent Organization 09.08.2019 201991684 Published 29.01.2020 India 09.08.2019 201917032272 04.2022		Mexico	02.08.2019	MX/a/2019/00921 2	Published 07.10.2019
Dominican Republic 05.08.2019 DOP2019000201 Published 30.08.2019 Japan 05.08.2019 2019542392 Peru 05.08.2019 001536-2019 Published 18.09.2019 Philippines 05.08.2019 12019501786 Eurasian Patent Organization 09.08.2019 201991684 Published 29.01.2020 India 09.08.2019 201917032272 001532272		Costa Rica	05.08.2019	CR2019-000354	Published 19.09.2019
Japan 05.08.2019 2019542392 Peru 05.08.2019 001536-2019 Published Philippines 05.08.2019 12019501786 18.09.2019 Philippines 05.08.2019 201991684 Published Organization 09.08.2019 201991684 Published India 09.08.2019 201917032272 101917032272		Dominican Republic	05.08.2019	DOP2019000201	Published 30.08.2019
Peru 05.08.2019 001536-2019 Published 18.09.2019 Philippines 05.08.2019 12019501786 Eurasian Patent Organization 09.08.2019 201991684 Published 29.01.2020 Granted 30.04.2022 India 09.08.2019 201917032272		Japan	05.08.2019	2019542392	
Philippines 05.08.2019 12019501786 Eurasian Patent Organization 09.08.2019 201991684 Published 29.01.2020 India 09.08.2019 201917032272		Peru	05.08.2019	001536-2019	Published 18 09 2019
Eurasian Patent Organization 09.08.2019 201991684 Published 29.01.2020 India 09.08.2019 201917032272		Philippines	05.08.2019	12019501786	10.07.2017
India 09.08.2019 201917032272		Eurasian Patent Organization	09.08.2019	201991684	Published 29.01.2020 Granted 30.04.2022
		India	09.08.2019	201917032272	30.04.2022

South Africa	22.08.2019	2019/05573	
Republic of Korea	03.09.2019	1020227027022	Divisional
-			04.08.2022
			Published
			22.08.2022
Ukraine	03.09.2019	A201909440	Published
			10.02.2020
			Granted
			10.03.2021
EPO	06.09.2019	2018706072	Granted
			21.04.2021
China	29.09.2019	201880023198.1	Published
			03.12.2019
Saudi Arabia	01.03.2022	519402405	

TPO No.	17				
Appl. No.	PCT/EP2018/051819 : WO2018149608				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018149608				
Applicants	Sandoz AG				
Priority Date	16.02.2017				
Details	The application cov cabotegravir is an interview.	ers crystalline forn tegrase inhibitor.	ns of cabotegravir sodiu	am. The basic molecule	e
Claims	The application has All 14 claims are sec are 2 claims for use. caused by DNA wadenoviruses.	14 claims, of which ondary claims. The The claims relate to virus, RA virus, 1	1 is an independent clai re are 3 claims for new fo over 10 diseases includ herpes virus, hepadnay	m and 13 are dependent orms like salts etc. There ing HIV, viral infections virus, papilloma virus	t. e is s,
	Of the 3 claims for f pharmaceutical comp claims. Of the 6 for dosage claim.	orms, 2 claims relat position which inclu mulation claims, 1 o	e to one crystalline form des the amorphous form. overlaps with a use claim	a and 1 claim relates to a There are also 4 process m and 1 overlaps with a	a s a
ISR	The ISR cited 5 docu	uments as prior art,	all of which are A.		
TPO	The TPO cited 5 pri inventive step and 2 documents was a pa Chinese to English o	or art documents. T 2 challenged both n atent document and <u>f a patent application</u>	Three of the prior art doc lovelty and inventive sta 4 were periodicals. (On on was uploaded along w	cuments challenged only ep. One of the prior ar ne translated copy from vith original document.)	y rt n
Date of Filing of TPO	The TPO was filed o	on 16.06.2019			
National	Office	Entry Date	National Number	National Status	
Phase as of 07.10.2022	Australia	09.08.2019	<u>2018221379</u>	Published 29.08.2019	
	Canada	09.08.2019	3053201		
	United States of America	13.08.2019	16485541	Published 10.12.2020 Granted 22.06.2021	
	Mexico	15.08.2019	MX/a/2019/00981 0	Published 14.01.2020 Granted 13.12.2021	
	EPO	16.09.2019	<u>2018703516</u>	Granted 18.11.2020	
	Russian Federation	16.09.2019	2019125378	Published 16.03.2021	
	China	16.10.2019	201880025341.0	Published 17.12.2019	

Appl. No. Link to Appl. Applicants Priority Date	PCT/US2018/018973 https://patentscope.wi	: WO2018156595 ipo.int/search/en/de	tail isf?docId-WO2018	156505
Link to Appl. Applicants Priority Date	https://patentscope.wi	ipo.int/search/en/de	tail isf?docId-WO2018	156505
Applicants Priority Date	Emory University		$u_{11} = u_{0} = u_{$	130393
Priority Date	Emory University			
Dataila	21.02.2017			
Details	The application cover	rs compounds which	act as chemokine CXC	CR4 receptor modulators
Claims	The application has 2	5 claims of which	l are independent claim	is and 21 are dependent
Claims	There are 4 Markush	structures claimed	that cover 322 specific	compounds. Ten claims
	are secondary claims	and 3 are formulati	on claims. There are 2	claims for use A claims
	for method of treatm	and 5 are formulation f	or combinations. The c	claims relate to over 10
	diseases including	HIV viral infecti	on abnormal cellula	r proliferation retinal
	degeneration, inflam	natory diseases, imi	nunostimulant, immuno	suppressant, cancer.
	C I	•		
	Apart from salts, pro	odrugs of the comp	ounds are also claimed	1. Of the 3 formulation
	claims, 1 claim overla	aps with a combinat	ion claim. Of the 4 com	bination claims, 1 claim
	is drafted as a formula	ation claim and 2 cl	aims are drafted as meth	nod of treatment claims.
ICD				
ISR	The ISR cited 4 docu	ments as prior art. C	of these, 2 were Y and 2	were A.
TPO	The TPO cited 5 price	or art documents. F	our of the prior art doc	uments challenged only
	inventive step and I	challenged both no	overty and inventive ste	ep. Two of the prior art
Data of	The TPO was filed or	$\frac{11}{21062010}$	were periodicals.	
Date of	The TPO was filed of	121.00.2019		
TPO				
National	Office	Entry Date	National Number	National Status
Phase as of	United States of	21.08.2019	16487825	Published
07.10.2022	America Australia			20.02.2020
	Australia	10.09.2019	2018225556	Published
				03.10.2019
	Canada	18.09.2019	3057071	
	EPO	23.09.2019	2018757622	
	China	21.10.2019	201880026481.X	Published
				06.12.2019
	Israel		292923	Divisional
				10.05.2022
	Canada EPO China Israel	18.09.2019 23.09.2019 21.10.2019	3057071 2018757622 201880026481.X 292923	03.10.2019 Published 06.12.2019 Divisional

TPO No.	29
Appl. No.	PCT/US2018/027418: WO2018191579
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018191579
Applicants	Contravir Pharmaceuticals, Inc.
Priority Date	14.04.2017
Details	The application covers a method of treating and/or preventing HIV or HBV by administering a combination of a modified cyclophilin inhibitor (known compounds) and reverse transcriptase inhibitors for the treatment of HIV, HBV.
Claims	The application has 68 claims, of which 23 are independent claims and 45 are dependent. All 68 claims are secondary claims and 6 are formulation claims. There are 23 claims for dosage, 16 claims for use, 49 claims for method of treatment and 68 claims for combinations. Sixty-five of the 68 claims are drafted as method of treatment or use claims. The applicant claims method of treatment with/use of a combination of cyclosporine analogue (1 Markush structure) with reverse transcriptase inhibitors (1 primary + 1 derivative Markush structure). Amongst the reverse transcriptase inhibitors they specifically claim
	tenofovir, a specific prodrug of tenofovir and certain specific salts of the prodrug. Of the 6 formulation claims, 1 claims the composition per se, 1 claims the composition for method of treatment and 4 claim the composition for use. One of these use claims also specifically claims a synergistic composition. All the dose/dosage-related claims are drafted as method of treatment claims. There is also a process claim and a claim for a kit.
ISR	The ISR cited 6 documents as prior art. Of these, 4 were X, 2 were PX. Of the 4 X documents in the ISR, 3 were also listed as Y documents.
TPO	The TPO cited 6 prior art documents. One of the prior art documents challenged only inventive step and 5 challenged both novelty and inventive step. Two of the prior art documents were patent documents, 3 were periodicals and 1 of them was an "other" prior art document (specifically, poster of a conference proceeding). Four additional documents were filed along with the main prior art documents; of these, 2 periodical documents were uploaded in support of a periodical article and the other 2 were additional press release documents uploaded in support of the "other" prior art document.
Date of	The TPO was filed on 12.08.2019
Filing of	
TPO	
National	No national phase entries
Phase as of	
07.10.2022	

TPO No.	33				
Appl. No.	PCT/IB2018/053014 : WO2018203235				
Link to Appl.	https://patentscope.wa	ipo.int/search/en/deta	il.jsf?docId=WO2018	<u>203235</u>	
Applicants	ViiV Healthcare UK	(No.5) Limited			
Priority Date	02.05.2017				
Details	The application claim	is compounds for the	treatment of HIV. The	e mechanism of action is	
	not disclosed.				
Claims	The application has 1	5 claims, of which 1	is an independent claim	m and 14 are dependent.	
	There are 2 Markush	structures claimed	and 270 specific com	pounds. Ten claims are	
	secondary claims and	1 2 are formulation cl	aims. There are 3 clai	ms for use, 5 claims for	
	method of treatment a	and 2 claims for com	binations.		
	Of the 2 Markush str	uctures claimed 1 is	a dorivative of the ga	aaral Markush structura	
	Another formula is	also specifically clai	med but it is a ster	eoisomer of the second	
	derivative Markush	structure and therefo	are has not been cour	ted as a senarate third	
	Markush structure. A	11 3 use claims are dra	afted in the form of co	mpounds for use claims.	
	Of the 5 method of tre	eatment claims, 2 are	for combinations. Both	the combination claims	
	are drafted as method	of treatment claims.			
ISR	The ISR cited 2 docu	ments as prior art, bo	th of which are A.		
TPO	The TPO cited 2 prior	art documents, both	of which challenged bo	oth novelty and inventive	
	step. Both prior art do	ocuments were patent	documents.		
Date of	The TPO was filed on	n 02.09.2019			
Filing of					
TPO	0.00				
National	Office	Entry Date	National Number	National Status	
Phase as of	United States of	18.10.2019	16606345	Granted	
07.10.2022	America	21.10.2010	2010550927	23.03.2022	
	Japan	31.10.2019	2019559837		
	EDO	02 12 2010	2018727428	Dublished	
		02.12.2019	2010/2/420	11 03 2020	
				Granted	
				06 04 2022	
		1	1		

TPO No.	40				
Appl. No.	PCT/IB2018/055257	:WO2019016679			
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019016679				
Applicants	ViiV Healthcare Con	npany	-		
Priority Date	18.07.2017				
Details	The application claims a pharmaceutical combination comprising the integrase strand transfer inhibitor, cabotegravir, with the nucleoside reverse transcriptase translocation inhibitor (NRTTI), 4'-ethynyl-2-fluoro-2'-deoxyadenosine, known as EFdA (MK-8591, islatravir). is listed as being in Phase II clinical trials in the TAG Pipeline Report 2018. The pharmaceutical combination claimed in the application is a combination of cabotegravir (formula I) and EFdA (MK-8591, islatravir), both of which are known drugs for the treatment and prevention of HIV.				
Claims	The application has 13 claims, of which 2 are independent claims and 11 are dependent. All 13 are secondary claims, 1 is a formulation claim and 1 is a new form claim. There are 3 claims for use, 7 claims for method of treatment and 13 claims for combinations. All the claims pertain to a combination of cabotegravir and islatravir for the prevention or treatment of HIV. The applicant claims sodium salt of cabotegravir (formula I) in two of the claims (1 claim is for combination and 1 claim is for method of treatment).				
ISR	The ISR cited 3 docu	ments as prior art, all	of which are Y.		
TPO	The TPO cited 6 prior art documents. Two of these challenged only inventive step and 4 challenged both novelty and inventive step. One prior art document was used after the priority date but before the filing date. In the TPO, the P document was used for both novelty and inventive step. Three of the prior art documents were patent documents and 3 were periodicals. Three additional documents were filed; 1 additional periodical article was filed each with Citations 2 and 3 (both periodical articles) and 1 additional document (US Department of Health and Human Services guideline) was filed with Citation 4 (a periodical article)				
Date of Filing of TPO	The TPO was filed on 18.11.2019				
National	Office	Entry Date	National Number	National Status	
Phase as of	United States of	14.01.2020	16631014	Published	
07.10.2022	America			07.05.2020	
	Japan	16.01.2020	2020502228		
	ЕРО	18.02.2020	2018834420		

TPO No.	41				
Appl. No.	PCT/US2018/042937 : WO2019018676				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019018676				
Applicants	Janssen Sciences and	Gilead Sciences			
Priority Date	20.07.2017				
Details	The application claim its hydrate or solvate) for treatment of HIV	ns method of treatmen , cobicistat, emtricitat , and single unit dosag	t with single unit dosa bine and tenofovir alfer ge forms.	ge form of darunavir (or namide, or a salt thereof,	
	The applicant claims a once daily single unit dosage form of a combination of 4 known drugs and method of treatment using the same. For the method of treatment claims, it also sets out the patient's conditions prior to the administration of the combination (e.g., the viral load of HIV prior to administration, presence or absence of certain mutations, previous discontinued first regimen etc.), treatment outcome and the previous treatment that the subject was on. Further, the applicant claims the known doses of the known anti-HIV drugs that are combined into a single unit and the process of making the single unit dosage form, more specifically in tablet form.				
Claims	The application has 42 claims, of which 2 are independent claims and 40 are dependent. All 42 are secondary claims. There are 16 formulation claims and 3 are claims for new forms. There are 9 claims for dosage and 34 claims for method of treatment and 42 claims for combinations. All the claims are directed to a single unit dosage form, either as method of treatment or single unit dosage forms per se. However, because of the manner in which they are drafted, not all of them are counted as formulation claims. Of the 16 formulation claims, 6 are formulation claims per se (single unit dosage form), 9 are drafted as method of treatment of treatment claims and 1 is product by process claim (product by process). Of these 16 formulation claims, 9 also include dose/dosage limitations (4 formulation claims per se and 5 method of treatment claims).				
ISR	The ISR cited 5 docu	ments as prior art. all	of which are X.		
TPO	The TPO cited 5 prior art documents, including 2 that were also cited in the ISR. One of these challenged only inventive step and 4 challenged both novelty and inventive step. Two of the prior art documents were patent documents, 2 were periodicals and 1 "other" prior art document was a poster of a conference proceeding. Three additional documents were uploaded.				
Date of Filing of TPO	The TPO was filed on 20.11.2019				
National	Office	Entry Date	National Number	National Status	
Phase as of	Japan	17.01.2020	2020502405		
07.10.2022	Mexico	17.01.2020	MX/a/2020/00069 4	Published 13.08.2020	
	Canada	20.01.2020	3070713		
	Brazil	28.01.2020	112020000842		
	EPO	20.02.2020	2018753288		

TPO No.	42						
Appl. No.	PCT/IB2018/055349 : WO2019016732						
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019016732						
Applicants	ViiV Healthcare Company and Janssen Sciences						
Priority Date	21.07.2017						
Details	The application clair	ns method of trea	ting HIV comprising ad	Iministering long-actin	g		
	intramuscular admin	istration (4 week	s or less, or 8 weeks) of a combination of	of		
	cabotegravir and rilpivirine (or their pharmaceutical salts). [Integrase inhibitor						
	(cabotegravir); non-nucleoside reverse transcriptase inhibitor (rilpivirine)]						
Claims	The application has 16 claims, of which 3 are independent claims and 13 are dependent.						
	All 16 are secondar	y claims. All 16	claim methods of treatr	nent. And all 16 clain	n		
	combinations. There	are 9 dosage claim	s. All claims relate to HI	V.			
	All the claims are for	or method of treat	ing HIV comprising ad	Iministering long-acting	g		
	intramuscular admini	istration of a comb	bination of cabotegravir	and rilpivirine (or thei	ir		
	pharmaceutically acc	eptable salts). The	efore, they are all metho	d of treatment claims a	IS		
	well as combination	claims. The 9 dos	age claims are claims w	which mention either the	le		
	doses of the compor	nents or the freque	ency of administration.	Some of the method o	of		
	treatment claims are	with respect to dis	continuing a previous tre	eatment regimen $(n = 4)$),		
	patient's condition pri	for to administratio	n of the claimed long-ac	ting combination ($n = 1$	1)		
	and treatment outcom	nes after 96 weeks	(n=3).		<u> </u>		
ISR	The ISR cited 3 doc	suments as prior a	rt, of which 2 are X do	cuments and 1 is an A	A		
	document.						
ТРО	The TPO cited 2 prior	art documents, bot	h of which challenged bo	oth novelty and inventiv	e		
	step. One was a pater	t document and 1	was another document. (One additional documen	It		
	was also filed. The	1 "other" prior art	document used was a p	oster from a conference	e .		
	proceeding. For this	document, the add	itional document (being	the relevant extracts o)Î		
Data of	The adstract dook) wa	$\frac{1}{2}$ s uploaded.					
Date of	The TPO was filed of	1 21.11.2019					
National	Office	Entry Data	National Number	National Status			
Phase as of	Jaroal	12 01 2020		National Status			
111111111111111111111111111111111111	Canada	12.01.2020	2070210				
07.10.2022	United States of	17.01.2020	16621969	Dublished :			
	A marias	17.01.2020	10051808	14.05.2020			
	Janan	20 10 2020	2020502070	14.03.2020			
	Japan	20.10.2020	2020302979 MX/a/2020/00070	Dublished			
	Mexico	20.01.2020	MA/a/2020/00079	Published 08 12 2020			
	Dopublic of Vorec	17.02.2020	1020207004521	08.12.2020			
	Republic of Korea	17.02.2020	1020207004521	Published			
	Avetrolio	20.02.2020	2019204501	24.05.2020 Dublished			
	Australia	20.02.2020	2018504591	Published 05.03.2020			
	EDO	21.02.2020	2019740579	03.03.2020			
	EPU Duccion	21.02.2020	2018/49308	Dublished			
	Kussian Enderstion	21.02.2020	2020102304	23 08 2021			
	China	20.02.2020	201000061254 2	23.00.2021 Dublished			
1	LE VIIIIA	20.03.2020	201000001334.3	I UUIISIICU			
				05 05 2020			

TPO No.	43				
Appl. No.	PCT/US2018/044415 : WO2019027920				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019027920				
Applicants	Gilead Sciences Inc.				
Priority Date	01.08.2017				
Details	The application claims crystalline and amorphous forms of GS-9131 (a prodrug of GS- 9148), and its vanillate, phosphate and xinafoate salts and phosphate acetonitrile solvate for treating viral infections like HIV. The application relates to various forms of GS- 9131, i.e., rovafovir etalafenamide, an oral nucleoside reverse transcriptase inhibitor. It is presently in Phase II clinical trials for the treatment of HIV. GS-9131 is listed in the TAG Pipeline Report 2018				
Claims	The application has 7 All 70 are secondary forms such as salts a methods of treatment Of the 14 claims for solid dosage forms. Se tablets. There are 53 two crystalline forms crystalline form each I of GS-9131; and am crystal or solvate the techniques such as isotherm. There is 1 dosing. This has been se and 1 claim is draft claims, 2 are for con active against HIV. E	0 claims, of which 9 a claims. There are 14 d and 1 claim for dosag and 10 claims for cor formulations, 6 are for ome of the claims are claims directed to var of GS-9131; two crys of phosphate, xinafoar orphous form of GS-9 reof. The various for XRPD, DSC, TGA claim where the soli counted as a dosage of red as a claim for a sol npositions further cor ight claims are further d dosage form, which	are independent claims claims for formulation ge. There are 2 claim nbinations. All claims or pharmaceutical con- directed to single laye tious forms of GS-913 talline forms of vanill te salt and phosphate a 0131 or a pharmaceution ms are characterised thermogram and dy d dosage form is for claim. Of the 2 use claid dosage form for use nprising 1 to 3 addition r dependent claims re- may include such con-	as and 61 are dependent. as, 53 claims for various as for use, 2 claims for a relate to HIV. appositions and 8 are for ar, multilayer and bilayer 31 itself or its salts, i.e., ate salt of GS-9131; one acetonitrile solvate Form cally acceptable salt, co- by one or more known namic vapour sorption mulated for once-a-day ims, 1 is a use claim per e. Of the 10 combination ional therapeutic agents lating to pharmaceutical abinations.	
ISR	The ISR cited 1 docu	ment as prior art, which	ch was an X documen	t.	
TPO	 The TPO cited 10 prior art documents, including the 1 document cited in the ISR. Eight of the documents challenged only inventive step and 2 challenged both novelty and inventive step. Of these prior art documents, 3 were periodicals, 6 were patent documents and 1 was another document, being a poster presented in a conference proceeding. Three additional documents were filed along with the 10 prior art documents. Of these, 2 documents (being a description of the poster and a periodical article showing the disclosure of the combination) were uploaded for the 1 "other" document (i.e., conference proceeding). One additional periodical document was uploaded in support of a patent document. 				
Date of Filing of TPO	The TPO was filed or	n 02.12.2019			
National	Office	Entry Date	National Number	National Status	
Phase as of 07.10.2022	EPO	02.03.2020	2018755368	Granted 28.07.2021	

TPO No.	45					
Appl. No.	PCT/IB2018/055828 : WO2019030625					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019030625					
Applicants	ViiV Healthcare Com	ipany				
Priority Date	09.08.2017					
Details	The application claims methods of treating or preventing HIV in a patient using a combination of bictegravir and lamivudine and optionally other agents as well as compositions containing such compounds. [Integrase inhibitor (bictegravir); nucleoside transcriptase inhibitor (lamivudine)]					
Claims	The application has 11 claims, of which 5 are independent claims and 6 are dependent. All 11 are secondary claims. There are 10 claims for formulations and 3 claims for dosage. There are 2 claims for use, 3 claims for methods of treatment and 11 claims for combinations. There are also 4 other claims. All claims relate to HIV.					
	The claims are directed to a combination of bictegravir and lamivudine or their pharmaceutically acceptable salts. Of the 10 claims for formulations, 3 claims are for compositions per se (including dose), 3 are method of treatment claims (including with the pharmaceutical compositions of the individual drugs), 2 are for kits comprising composition and 2 are for use of the composition (kit or combination). Of the 3 dosage claims, 1 claim specifically mentions the dose. 2 further dependent "use" claims impliedly include the dose limitation. The 2 use claims are for use of the composition or treating HIV with a combination of bictegravir and lamivudine (or their salts) or formulations thereof. All the 11 claims relate to the combination of bictegravir and lamivudine. Of the 11 claims, 4 claims specifically claim the combination of treatment claims, 2 claims are for kits and 2 claims are claims for the use of the claimed composition, kit or combination. Of the 4 "other" claims, 2 claims are claims for kits per se and 2 relate to use of the claimed kits					
ISR	The ISR cited 3 docu document.	ments as prior art, of	which 2 were Y doc	uments and 1 was a PX		
ТРО	The TPO cited 4 prior art documents, including one of the documents cited in the ISR. Three of the documents challenged only inventive step and 1 challenged both novelty and inventive step. Three were periodicals and 1 was a patent document. One additional document was also uploaded in support of a periodical article, being the supplementary information of the said periodical article.					
Date of Filing of TPO	The TPO was filed or	n 09.12.2019				
National	Office	Entry Date	National Number	National Status		
Phase as of	United States of	04.02.2020	<u>16636477</u>	Published		
07.10.2022	America			06.08.2020		
	Japan	07.02.2020	2020507085			
	EPO	09.03.2020	2018844317	Published : 17.06.2020		

TPO No.	46					
Appl. No.	PCT/IB2018/055829 : WO2019030626					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019030626					
Applicants	ViiV Healthcare Com	ipany				
Priority Date	09.08.2017					
Details	The application claim inhibitor) and emtric treating and preventir	ns compositions of a sitabine (nucleoside reader of the second se	combination of bicteg everse transcriptase in abination.	ravir (an HIV integrase and inhibitor) and method of		
Claims	The application has 11 claims, of which 5 are independent claims and 6 are dependent. All 11 are secondary claims. There are 5 claims for formulations and 3 claims for dosage. There are 2 claims for use, 3 claims for methods of treatment and 11 claims for combinations. There are also 4 other claims. All claims relate to HIV.					
	All the claims pertain to a combination of bictegravir and emtricitabine for the prevention or treatment of HIV. One claim that specifically claims only the combination (not composition, kit, method of treatment, etc.) also generally claims the salt forms of the compounds. Of the 5 formulation claims, 1 claims the composition (and kits and combination) for use in medical therapy and 1 claims the composition (and kits and combination) for use in method of treatment. Thus 2 of the 5 formulation claims also include claims to a kit and a combination for use in therapy and use in method of treatment. Of the 5 formulation claims, 1 claim also claims the doses of each of the 2 drugs and 2 claims pertain to a separate dosage form or single dosage form. The 2 claims for use claim a composition, kit and combination for (i) use in medical therapy and (ii) method of treatment respectively. The claim for use for method of treatment is not counted as a method of treatment claim. Of the 4 "other" claims, 2 are specifically only for kits. As noted above, 2 claims for use in medical therapy and use in method of treatment also refer to kits (and pharmaceutical compositions and combination). These, too, have been					
ISR	The ISR cited 4 documents as prior art, of which 1 is an X document, 2 are Y documents and 1 is a PX document. The X document referred to in the ISR is also marked as a Y document					
ТРО	The TPO cited 5 prior art documents, including 1 document cited in the ISR. All 5 documents challenged both novelty and inventive step. Three were periodicals and 2 were patent documents. The supplementary material of one of the periodical articles was uploaded as an additional document.					
Date of Filing of TPO	The TPO was filed or	n 09.12.2019				
National	Office	Entry Date	National Number	National Status		
Phase as of	United States of	04.02.2020	16636452	Published		
07.10.2022	America			04.06.2020		
	Japan	07.02.2020	2020506979			
	EPO	09.03.2020	2018843567	Published :		
				17.06.2020		

TPO No	40
Appl No	PCT/IB2018/056982 · WO2019053617
Link to	https://patentscope.wipo.int/search/an/detail.isf?docId=WO2019053617
Appl	https://patentscope.wipo.int/search/en/detail.jsi?docid=w02019055017
Applicants	GlaxoSmithKline Intellectual Property Development Limited
Priority	12.09.2017
Date	
Details	This application claims macrocyclic salicyclamide derivatives which act as ecto-5'- nucleotidase (ecto-5'-NT, CD73) inhibitors which could be used for treating cancer and HIV, among others. The application covers a basic molecule, i.e., ecto-5'- nucleotidase (ecto-5'-NT), that are CD73 inhibitors.
Claims	The application has 25 claims, of which 1 is an independent claim and 24 are dependent. There are 4 Markush structures claimed which cover 63 specific compounds. Nineteen of the claims are secondary claims. There are 2 claims for formulations and 1 claim for dosage. There are 3 claims for use, 13 claims for methods of treatment and 2 claims for combinations. There is also 1 other claim. The claims cover over 10 diseases, including cancer (various forms), AIDS, HIV, infections, atherosclerosis and ischemia-reperfusion injury.
	Of the 4 Markush structures, 1 is a primary Markush structure and the other 3 are derived from it. Of the 2 formulation claims, 1 also mentions a dose range of the active ingredient and excipient. Of the 3 claims for use, 1 is drafted as a claim for compound for use. Of the 13 method of treatment claims, 2 are for combinations. Both the combination claims are drafted as method of treatment claims.
ISR	The ISR cited 2 documents as prior art, of which 1 is an A document and there is 1 other document. The "other" document referred to in the ISR is a PA document.
ТРО	The TPO cited 5 prior art documents, including 1 document cited in the ISR. Two of these challenged only inventive step while 3 challenged both novelty and inventive step. One document was published after the priority date but before the filing date and challenged both novelty and inventive step. Of the prior art documents cited in the TPO, 2 were periodicals and 3 were patent documents. The ISR document used in the TPO was the P (i.e., PA) document (published after the priority date but before the filing date of the application).
Date of Filing of	The TPO was filed on 13.01.2020
1PU National	No notional phase entries
Phase as of	no nauonai pitase enuties
07.10.2022	

TPO No.	53					
Appl. No.	PCT/US2018/052503 : WO2019060860					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019060860					
Applicants	Suzhou Yunxuan Yiyao Keji Youxian Gongsi and Zhang Xiaohu					
Priority Date	25.09.2017					
Details	The application claim X-C chemokine receptor therapeutic interv cancers. The application inhibitor.	ns heteroaryl composition type 4 (CXCR potor type 4 (CXCR vention in infection tion covers a basic	ounds that are useful in the table of the table of the table of the table of table o	he therapies targeting C- these CXCR4 inhibitors y diseases, tumours and emokine receptor type 4		
Claims	The application has 21 claims, of which 1 is an independent claim and 20 are dependent. There are 10 Markush structures claimed which cover 198 specific compounds. Three of the claims are secondary claims. There is 1 claim for formulations. There is 1 claim for use and 1 claim for combinations. The claims cover over 10 diseases, i.e., HIV infection, myocardial infarction, rheumatoid arthritis, myasthenia gravis, juvenile diabetes, glomerulonephritis, autoimmune thyroiditis, graft rejection, etc. The claims cover hydrate, solvate, stereoisomer and tautomer forms. Of the 10 Markush structures, 1 is the primary Markush structure and the remaining 9 Markush structures are derived from it. The 1 use claim is drafted as a claim for a compound for treating various diseases.					
ISR	The ISR cited 5 docu	ments as prior art,	of which all are A docur	nents.		
ТРО	The TPO cited 5 prior art documents, including 1 document cited in the ISR. Two of the documents challenged only inventive step while 3 challenged both novelty and inventive step. Two were periodicals and 3 were patent documents. One of the A documents of the ISR was used as prior art in the TPO; however, instead of the US version cited in the ISR, the WO equivalent of the document was used.					
Date of Filing of TPO	The TPO was filed or	n 27.01.2020				
National	Office	Entry Date	National Number	National Status		
Phase as of 07.10.2022	United States of America	24.03.2020	16649983	Published 30.07.2020 Granted 26.07.2022		
	Japan	25.03.2020	2020538760			
	Republic of Korea	08.04.2020	1020207010206	Published		
	- EDO	20.04.2020	2010050565	27.05.2020		
		28.04.2020	2018859565	Published 05.08.2020		

TDO N	
TPO No.	50 DCT/ID2019/057724 · WO2010060260
Link to Appl	https://patentscope.wipo.int/search/en/detail.isf?docId=WO2019069269
Applicants	GlaxoSmithKline Intellectual Property Development Limited
Priority Date	05.10.2017
Details	The application claims combination of diamidobenzimidazoles (or their tautomers or salts) with one or more additional pharmaceutical agents active against HIV to treat, prevent and cure HIV. It also claims method of curing HIV with diamidobenzimidazoles (which work as STING modulators) and the use of diamidobenzimidazoles for curing
	HIV
Claims	The application has 43 claims, of which 2 are independent claims and 41 are dependent. All 43 are secondary claims. There are 9 claims for use and 26 claims for combinations. There are 18 claims for method of treatment. The claims relate to HIV.
	The first 26 claims relate to combination of diamidobenzimidazoles (or their tautomers or salts) with one or more additional pharmaceutical agents active against HIV to treat, prevent and cure HIV. The remaining claims relate to method of curing HIV with diamidobenzimidazoles (which work as STING modulators) and the use of diamidobenzimidazole compounds per se, it claims their combination with other agents or their subsequent use (curing HIV infection). For these secondary claims, the applicant claims diamidobenzimidazole compounds with 4 Markush structures and 15 specific compounds. Of the 4 Markush structures, 1 is the primary Markush structure (I-N) and 3 are derivative Markush structures (I, I-N-B' and I-N-b'). Among the 3 derivative Markush structures, 1 derivative (I-N-b') is a further derivative of another (I-N-B'). Amongst the diamidobenzimidazoles, it claims 10 specific compounds and geometric isomers of 4 of them. Of the 9 claims for use, 7 are directed to the combination and 2 to the compounds per se. Of the 7 use claims for curing HIV and 1 claim is drafted as a claim to use of the claimed diamidobenzimidazole compounds for manufacture of medicament to cure HIV. Of the 18 method of treatment claims, 3 claims are for method of preventing, treating or curing HIV using a combination; 15 are for method of curing HIV with the diamidobenzimidazole compounds. Of the 26 combination claims, 17 claims are for the combination per se, 3 claims are for method of treatment, period of the to the combination claims, 10 specific combination claims, 10 specific compounds for curing HIV with the diamidobenzimidazole compounds for the combination for use for the set of the claimed diamidobenzimidazole compounds for manufacture of medicament to cure HIV. Of the 18 method of treatment claims, 3 claims are for method of curing HIV with the diamidobenzimidazole compounds. Of the 26 combination claims, 17 claims are for the combination per se, 3 claims are for method of treatment, preventing or curing HIV with the diamidobe
ICD	are drafted as claims for combinations for use).
15K	Ine ISK cited 3 documents as prior art, of which 2 are A documents and 1 is another document. The "other" document in the ISR is an L document, "which may throw doubts on priority claim(s) or other special reason (as specified)". This document has been used in the TPO to assail novelty as it discloses the same diamidobenzimidazole compounds and their combination which form the subject matter of the present application. In the alternative, this document is cited as a PX document.
TPO	The TPO cited 3 prior art documents, including 1 document cited in the ISR. One of the documents challenged only novelty, 1 challenged only inventive step while 1 challenged both novelty and inventive step. Two of the documents were published after the priority date but before the filing date. Of the 2 documents used after the priority date, 1 is the document marked as "L" in the ISR. As per the WOSA, the application cannot claim the protection of the priority date as it is not the first filed application and the L document, being the first filed application, anticipates the claims of the present application. This document has been used in the TPO to assail novelty as it discloses the same diamidobenzimidazole compounds and their combination which form the subject matter of the present application. In the alternative, this has also been used as a PX document in the TPO.
	application filed for the invention, the priority claimed for the subject matter is invalid.

	Therefore, the filing date of the present application, i.e., 4.10.2018, is the relevant priority date.All 3 of the prior art documents cited in the TPO were patent documents, and an additional document filed with the TPO was also a patent document.				
Date of Filing of TPO	The TPO was filed on 05.02.2020				
National	Office	Entry Date	National Number	National Status	
Phase as of 07.10.2022	United States of America	01.04.2020	16652780	Published 05.08.2021	
	Japan	03.04.2020	2020519389		
	Australia	06.04.2020	2018344902	Published 23.04.2020	
	EPO	06.05.2020	2018795802		

TPO No.	58					
Appl. No.	PCT/US2018/054825	5 : WO2019074826				
Link to Appl.	https://patentscope.wa	ipo.int/search/en/de	tail.jsf?docId=WO2019	<u>074826</u>		
Applicants	ViiV Healthcare Con	npany				
Priority Date	13.10.2017					
Details	The application claim transfer inhibitor dolu lamivudine".	ns a "bi-layer tablet ategravir with the n	formulation comprising ucleoside reverse transcr	HIV integrase strand riptase inhibitor		
Claims	The application has 13 claims, of which 1 is an independent claim and 12 are dependent. All 13 are secondary claims. There are 8 claims for dosage use and 13 claims for combinations.					
	All the 13 claims are for formulations, i.e., a bilayer tablet formulation comprising dolutegravir and lamivudine. With respect to specific forms, the 1 independent claim specifically mentions dolutegravir sodium, while all the other dependent claims only mention dolutegravir. Of the 8 dosage claims, 6 claims specifically mention the dose of the ingredients while 2 are dependent claims which impliedly include the dose limitations. Four claims for the tablets are characterised by the AUC parameters ($n = 4$), of which 2 are for AUC in fasted patients and 2 claims are characterised by dissolution parameters. All these are counted as formulation claims.					
ISR	The ISR cited 4 doc documents. The intern 27 December 2018), published after the TI	cuments as prior a national application search strategy an 20 was filed.	rt, of which 1 is an X was published without t d WOSA (mailed 27 D	document and 3 are A he ISR. The ISR (mailed ecember 2018) were all		
TPO Data of	The TPO cited 7 prior art documents. Two of the documents challenged only inventive step while 5 challenged both novelty and inventive step. Three of the prior art documents were periodicals, 2 were patent documents, 1 was a book and there was 1 other document. Three additional documents were also filed. In the TPO, the 1 "other" prior art document used was a conference proceeding (for which both the eposter and oral abstract were uploaded). Of the 3 additional documents filed, 2 were US FDA labels for the active ingredients. The other was, as mentioned above, the oral abstract of the conference proceeding.					
Filing of TPO	The IFO was filed of	1 15.02.2020				
National	Office	Entry Date	National Number	National Status		
Phase as of	Israel	30.03.2020	273704			
07.10.2022	Autralia	31.03.2020	2018347990	Published 23.04.2020		
	United States of	01.04.2020	<u>16652768</u>	Published		
	America	0.6.0.4.00000	2070 (24	23.07.2020		
	Canada	06.04.2020	3078624	N 111 1		
	China	10.04.2020	201880066314.8	Published 05.06.2020		
	Japan	10.04.2020	2020520646			
	EPO	13.05.2020	<u>2018866268</u>			
	Russian	13.05.2020	<u>2020118376</u>	Published		
	Federation			16.10.2020		
	Mexico	13.07.2020	<u>MX/a/2020/00337</u> <u>7</u>	Published 16.10.2020		
	Brazil	15.09.2020	<u>112020006783</u>			
	Republic of Korea		1020207010456	Published		
				17.06.2020		
	1					

TPO No.	59						
Appl. No.	PCT/US2018/055554 : WO2019075291						
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019075291						
Applicants	Gilead Sciences, Inc.						
Priority Date	13.10.2017						
Details	The application clai	ms oxoimidazolidi	ne derivatives and their	salts as HIV protease			
	inhibitors. It also cla	ims pharmaceutical	l compositions thereof a	nd methods for treating			
	HIV and also combi	nations with other a	anti-HIV agents. The ap	plication covers a basic			
	molecule.						
Claims	The application has 53 claims, of which 7 are independent claims and 46 are dependent claims. There are 5 Markush structures covering 372 specific compounds. There are 8 secondary claims. There are 6 formulation claims, 2 method of treatment claims and 6 claims for combinations. All claims relate to HIV. Of the 5 Markush structures, 1 is the primary Markush structure (Formula I) and 4 are derivative Markush structures (Formula Ia to Id). The primary Markush structure is claimed in both Claims 1 and 2 but has been counted only once. Of the 6 formulation claims, 1 claim is for a pharmaceutical composition per se and 5 claims are for pharmaceutical compositions comprising 1 to 4 additional therapeutic agents. One claim						
	method of treatmen	t claims. 1 claim i	s for a method of treat	tment with the claimed			
	compound and 1 clar	im is for method of	treatment in combination	on with 1 to 4 additional			
	therapeutic agents.						
ISR	The ISR cited 2 doc	uments as prior art,	, of which 1 is an A doo	cument and 1 is another			
	document. The 1 "of	ther" document cited	d in the ISR is an AP do	cument.			
ТРО	The TPO cited 3 price	or art documents. Tw	vo of the documents cha	llenged only inventive			
	step while 1 challeng	ged both novelty and	l inventive step. Of the p	prior art documents			
	cited in the TPO, 1 w	vas a periodical and	2 were patent document	s. One additional			
	document was filed.						
	The additional document is a PX document in futher support of a prior art patent						
	document. Thus, a PX document was not added as a standalone prior art document. but						
	was referred to in another note.						
Date of	The TPO was filed on 13.02.2020						
Filing of							
ТРО							
National	Office	Entry Date	National Number	National Status			
Phase as of	Singapore	11.03.2020	11202002235X				
07.10.2022	Eurasian Patent	17.03.2020	<u>202090530</u>	Published			
	Organization			30.10.2020			
				Withdrawn			
		22.02.2020	207(7(1	12.10.2021			
	Canada	23.03.2020	3076761	D 11' 1 1			
	Australia	26.03.2020	2018347541	Published			
	16.04.2020						
	Inew Zealand 20.05.2020 <u>/62995</u> Published 27.02.2020 27.02.2020 27.02.2020 27.02.2020 27.02.2020						
	Costa Rica 01.04.2020 CP 2020.000140 Published						
	$\begin{bmatrix} COSta Kica & 01.04.2020 & CK2020-000149 & Published \\ 22.05.2020 & 22.05.20200 & 22.05.202000 & 22.05.20200 & 22.05.202000 & 22.05.202000000000000000000000000000000$						
	Israel 06.04.2020 273842						
	Thailand	08.04.2020	2001002000				
	China	10.04.2020	201880066480.8	Published			
				29.05.2020			
	Japan	10.04.2020	<u>2020520483</u>				
	Philippines	13.04.2020	<u>12020550256</u>				
	Dominican	06.05.2020	DOP2020000078	Published			
	Republic			15.10.2020			

	Republic of Korea	12.05.2020	1020207013543	Published
				18.06.2020
	EPO	13.05.2020	2018796285	
	Ukraine	13.05.2020	A202001859	Published
				25.06.2020
				Withdrawn
				24.09.2021
	Peru	15.05.2020	000525-2020	Published
				29.12.2020
	Mexico	13.07.2020	MX/a/2020/00343	Published
			<u>0</u>	13.08.2020

TPO No.	65
Appl. No.	PCT/US2018/066744 : WO2019126464
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019126464
Applicants	Lentigen Technology, Inc.
Priority Date	20.12.2017
Details	The application claims nucleic acid and amino acid sequences for chimeric antigen receptors (CARs) containing HIV envelope antigen binding domains (mD1.22, m36.4 and/or C46). It also claims recombinant expression vectors, host cells, antigen binding fragments and pharmaceutical compositions relating to the CARs and methods of treating or preventing HIV infection in a subject, and methods of making CAR-T cells. This application covers a biologic
Claims	The application has 42 claims, of which 4 are independent claims and 38 are dependent. Twelve are secondary claims, 6 are formulation claims and 5 are claims for method of treatment. All 42 claims are for combinations. There are also 4 other claims. The claims cover more than 10 diseases including HIV, cancer and HIV-associated diseases.
	Of the 6 formulation claims, 3 are for pharmaceutical compositions per se (i.e., 1 independent claim for composition comprising an anti-HIV effective amount of a population of human T cells, wherein the T cells comprise a nucleic acid sequence that encodes a CAR, and 2 dependent claims including 1 for the transmembrane domain of the claimed CAR) and 3 claims are method of treatment claims for treating HIV, cancer disorder or condition associated with an elevated expression of an HIV-1 envelope antigen by administration of the claimed pharmaceutical composition (i.e., 2 independent claims and 1 dependent claim for the transmembrane domain of the 5 method of treatment claims, 1 claim is a method for providing an anti-HIV immunity in a mammal by administration of the claimed T cell, 1 claim is a method of treating or preventing HIV-1 by administration of the claimed CAR to the mammal, and the other 3 claims are for method of treatment claims for treating HIV-1 envelope antigen by administration of the claimed composition. Of the 4 "other" claims, 2 claims are for a process to produce CAR-expressing cell, 1 claim is a method for making a cell by transduction of a T cell with a vector comprising a promoter, and 1 claim is a method for generating a population of RNA engineered cells.
	The application claims CAR molecules (bispecific and trispecific mono and duo CAR) comprising at least one extracellular antigen binding domain comprising an anti-HIV envelope antigen binding domain (mD1.22, m36.4 and/or C46) encoded by nucleotide sequences and amino acid sequences, at least one transmembrane domain and at least one intracellular signalling domain. The applicant claims that the claimed pharmaceutical composition is for treating cancer or diseases, disorders or conditions with an elevated expression of HIV-1 envelope antigen. Also, in the description these AIDS defining diseases have been listed. Therefore, the number of diseases is considered as >10.
ISR	The ISR cited 7 documents as prior art, of which 6 are A documents and 1 is a PX document. The application was initially published without the ISR (A2). The later published A3 version on 08.08.2019 was published along with the ISR.
ТРО	The TPO cited 8 prior art documents. Six of these challenged only inventive step and 2 challenged both novelty and inventive step. One of the documents challenging inventive step was after the priority date but before the filing date. Of the prior art documents cited in the TPO, 4 were periodicals and 4 were patent documents. Four additional documents were filed with the TPO. Of the 4 additional documents, a periodical and a patent document were uploaded in support of a periodical article (i.e., $n = 2$) and 1 periodical article was uploaded to support a periodical article ($n = 1$). The other additional document, a comparative table, was uploaded to show the similarity in disclosures between the prior art patent document and the claims of the application.
Date of Filing of TPO	The TPO was filed on 20.04.2020

National	Office	Entry Date	National Number	National Status
Phase as of	Canada	19.06.2020	3086612	
07.10.2022	Japan	19.06.2020	2020534253	
	EPO	20.07.2020	2018890907	
	China	18.08.2020	201880089736.7	Published
				17.11.2020

Part B: Case Summaries – HCV Applications

TPO No.	1
Appl. No.	PCT/CN2017/096814 : WO2018028634
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018028634
Applicants	Sunshine Lake Pharma Co. Ltd
Priority Date	11.08.2016
Details	The application is for salt forms of known compound previously described in a patent document. The said compound exhibits inhibitory activity against HCV NS3/4A protein. Thus, this is an application for HCV.
Claims	The application has 13 claims, all of which are secondary claims.
	There are 2 independent claims, 1 for the base addition salt and 1 for the acid addition salt of the compound. There are 4 claims that specifically claim the salt forms.
	As the patent application is for salt forms, apart from the 4 specific claims for the salts, all other claims (including formulations, use, method of treatment, etc.) too claim the compound in the salt form.
	There are 9 formulation claims, 8 combination claims, 4 claims for use and 2 claims for method of treatment. Of the 9 formulation claims, 3 claims are for pharmaceutical compositions per se, 4 claims claim use of the composition (apart from use of the salts) and 2 claim method of treatment with the composition (apart from method of treating with the salts). Of the 8 combination claims, 2 claims are specifically for compositions (i.e., formulations) of such combinations, 4 claims claim use of combinations (apart from use of the salts of the claimed compound) and 2 claims claim method of treatment using the combination (apart from method of treatment of the salts of the claimed compound).
ISR	The ISR, WOSA and International Preliminary Report on Patentability (IPRP) have been published; the State Intellectual Property Office of the P.R. China is the ISA. The ISR has 3 documents, of which 2 attacked the novelty of all the claims and an additional document (published after the priority date, but before the filing date) too attacked the novelty of all the claims. Though the search strategy has not been separately published, the ISR lists the
TDO	electronic databases searched as well as the search terms used.
IPO	The TPO fitted / documents, none of which were cited in the ISR. The TPO has 2 documents that assail the lack of inventive step and 5 documents that assail the lack of novelty and/or inventive step of the claims made in the application. The TPO used 5 articles published in periodicals and 2 patent documents. The TPO introduced general journal articles relating to salt selection that show the state
	of the art in the field.
Date of Filing of TPO	The TPO was filed on 11.12.2018.
National Phase	No national phase entries.
as of	
07.10.2022	

TPO No. 11						
Appl. No.	PCT/EP2018/051110): WO2018134254				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018134254					
Applicants	Heparegenix GMBH					
Priority Date	17.01.2017					
Details	The application is for basic molecules that are MKK4 (mitogen activated protein kinase 4) inhibitors for promoting liver regeneration or reducing or preventing hepatocyte death. The claimed MKK4 inhibitors are alleged to selectively inhibit protein kinase MKK4 over protein kinases JNK and MKK7.					
	This is an application for HCV and more than 10 other diseases, such as Hep B, E, autoimmune hepatitis, alcoholic hepatitis, primary biliary cirrhosis and other liver diseases.					
Claims	Of the 29 claims, 2 are independent claims and 27 are dependent claims. The independent claims also claim the pharmaceutically acceptable salts, solvates and optical isomers thereof. Subsequent dependent claims and secondary claims too claim the compounds, pharmaceutically acceptable salts, solvates and optical isomers thereof. The application claims 2 Markush structures and 84 specific compounds. Of the 2					
	Markush structures claimed, 1 is a derivative of the other. There are 11 secondary claims, of which 7 claims are for use and 1 each for method of treatment, formulation and dosage. The 1 "other" claim is a claim which characterises the claimed compounds by the mechanism of action. It has not been counted as a					
ISR	The ISR WOSA and	IPRP have been pub	lished: the European Pa	ntent Office Rijswijk.		
	Netherlands, is the ISA. The ISR has 2 X documents. The search strategy has been published. It indicates a search using the IPC codes.					
ТРО	The TPO does not refer to any of the documents cited in the ISR.					
	The TPO refers to 5 documents, of which 2 are used only for novelty and 3 are used for both novelty and inventive step. Of the 5 documents, 2 are periodicals and 3 are patent documents.					
Date of Filing of TPO	The TPO was filed o	n 15.05.2019.				
National Phase	Office	Entry Date	National Number	National Status		
as of	Canada	11.07.2019	3049926			
07.10.2022	Mexico	15.07.2019	MX/a/2019/008458	Published 14.01.2020		
	Granted 07.07.2022					
	United States of America	15.07.2019	<u>16478006</u>	Published 05.12.2019 Granted 22.06.2021		
Japan 16.07.2019 <u>2019559391</u>						
	China	17.07.2019	<u>201880007339.0</u>	Published 27.09.2019 Granted 27.05.2022		
	Brazil	23.07.2019	112019014593			

	Australia	29.07.2019	2018209164	Published 15.08.2019
	India	29.07.2019	201947030479	Published 09.08.2019
	New Zealand	29.07.2019	<u>755835</u>	Published 30.08.2019
	EPO	19.08.2019	2018702425	Granted 22.06.2022
TPO No.	15			
--------------------------	--	---	---	---
Appl. No.	PCT/US2018/01630	01: WO2018144640		
Link to Appl.	https://patentscope.v	wipo.int/search/en/d	etail.jsf?docId=WO20	<u>)18144640</u>
Applicants	Atea Pharmaceutica	ils, Inc		
Priority Date	01.02.2017			
Details	The application is an	n application for a s	alt form.	
	It claims the hemisu the treatment of her chronic liver inflam	Ilphate salt of a kno patitis C virus and f mation, liver cancer	wn modified guanosir or HCV-related disea , cirrhosis and fatigue	ne nucleotide prodrug for ses such as HCV-related
	The basic molecule is AT511 (prodrug) also being explored	is an NS5B polyme and the hemisulpha for COVID-19.	rase inhibitor. The NS ate form is now identi	5B polymerase inhibitor fied as AT527. It is now
Claims	All the 77 claims dependent claims.	are secondary clain	ms, of which 7 are	independent and 70 are
	Of the 77 claims, 30 salt and crystalline f treatment claims, 5	6 are for formulatio form thereof), 27 are are combination cla	ns, 4 are for various f for dosage, 9 are use ims and 18 are other c	forms (i.e., hemisulphate claims, 28 are method of claims.
	Of the 3 claims the crystalline form claim	nat characterise the imed in terms of sto	e crystalline form, 2 rage conditions.	claims characterise the
	Of the 27 dosage cla overlap as method o	ims, 9 overlap as for f treatment claims. F	mulation claims. Four Four of the dosage claim	teen of the dosage claims ms overlap as use claims.
	Twelve claims chara values and 6 claims	acterise the salt form characterise the AU	n or metabolite with st JC of the metabolite.	eady state trough plasma
ISR	The ISR, WOSA an	d IPRP have been p	ublished; the USPTO	is the ISA.
	The ISR has 7 docu	ments, of which 4 a	re Y documents and 3	are A documents.
	The search strategy sulphuric acid of nu	y has been published been published been been been been been been been be	ed. The search strate de and phosphoramide	gy indicates a focus on e and guanosine.
TPO	The TPO cites 5 doo	cuments, including	l patent document cite	ed in the ISR.
	The ISR document was the TPO refers to the W	used in the TPO is a O equivalent of the	n earlier patent docum US patent document	nent of the applicant. The referred to in the ISR.
	In the TPO, 4 of the novelty and inventi documents. The 3 p regarding salts and s	e documents are cited we step. Of the 5 d eriodical articles are solid states.	d only for inventive st locuments, 3 are peri- e articles that set out th	ep and 1 is cited for both odicals and 2 are patent ne general state of the art
	The applicant has fi to the compound no claimed. The applic skilled in the art	led a response to th ot ever having been ant denies that using	e TPO. The response used in the hemisulph g the hemisulphate for	is primarily with regard nate form which is being rm is obvious to a person
Date of Filing of TPO	The TPO was filed	on 03.06.2019.		
National Phase	Office	Entry Date	National Number	National Status
as of	Canada	20.06.2019	3048033	
07.10.2022	Australia	28.06.2019	2018215203	Published
				18.07.2019
	New Zealand	28.06.2019	754996	Published
				26.07.2019
				Divisional15.09.2021
		1	1	Granted 28.06.2022

Georgia	01.07.2019	<u>15124/1</u>	Published
			11.07.2022
Singapore	02.07.2019	<u>11201906163T</u>	
Israel	15.07.2019	<u>295609</u>	Divisional
			14.08.2022
Ukraine	19.07.2019	A201907086	Published
			10.01.2020
India	23.07.2019	201917029812	
Brazil	30.07.2019	<u>112019014738</u>	
Japan	30.07.2019	2019541346	
Mexico	31.07.2019	MX/a/2019/009114	Published
			11.11.2019
			Granted 01.08.2022
China	01.08.2019	201880009871.6	Published
			17.09.2019
Eurasian Petent	29.08.2019	201991810	Published
Organisation			31.01.2020
EPO	02.09.2019	2018747587	
Russian	02.09.2019	2019127284	Published
Federation			02.03.2021
Republic of		1020217039328	Published
Korea			13.12.2021

TPO No.	21			
Appl. No.	PCT/US2018/022488	3: WO2018170165		
Link to Appl.	https://patentscope.wi	ipo.int/search/en/deta	uil.jsf?docId=WO2018	3170165
Applicants	Metacrine, Inc.			
Priority Date	15.03.2017			
Details	The application is for treatment of HCV steatohepatitis and cin steatohepatitis (NASI The applicant filed 5 a The scaffolds claime described in Metacrin	r a basic molecule, and more than 10 rrhosis, gastrointestin H), biliary cirrhosis, C applications pertainin ed in the present ap ne's other applications	i.e., farnesoid X rece other diseases such al diseases, ulcerative Crohn's disease, etc. Ing to farsenoid X recep plication are very sir s WO'166, WO'167, V	eptor agonists for the h as HIV-associated colitis, non-alcoholic otors on the same date. nilar to the scaffolds WO'173 and WO'182,
	with only minor chan	ges in the substituent	s substituted.	
Claims	Of the 55 claims, 2 ar	e independent claims	s and 53 are dependent	t claims.
	The application claim Markush structures, 1 structures are derived (Formula X). Howeve	ns 10 Markush struct is the primary Mark d from it. The applic er, this is not claimed	ures and 94 specific c cush structure and the cation discloses 1 mo l.	compounds. Of the 10 remaining 9 Markush ore Markush structure
	The application also claimed compounds.	claims pharmaceuti	cally acceptable salts	s and solvates of the
	There are 25 seconda treatment claims and there is no claim for a	rry claims, of which 1 is a combination cla a combination per se)	3 are formulation clai aim (drafted as a meth-	ms, 22 are method of od of treatment claim;
ISR	The ISR, WOSA and Office is the ISA.	d IPRP have been p	oublished; the Korean	Intellectual Property
	The ISR cites 5 docur PX document.	nents, of which 2 are	X documents, 2 are A	documents and 1 is a
	Though the search s	strategy has not bee	separately publishes	ed, the ISK lists the
ТРО	The TPO cites 5 do documents, 1 docume used to assail inventiv	cuments, of which 2 ent is used to assail n ve step. Of the docum	2 were also cited in ovelty (a PX documents cited, 1 is a peri	the ISR. Of these 5 nt) and the other 4 are odical and the other 4
	are patent documents.		· •	
	*			
	In the TPO, the novel	ty ground is based or	n a PX document.	
Date of Filing of TPO	The TPO was filed or	1 15.07.2019.		
National Phase	Office	Entry Date	National Number	National Status
as of	United States of		16494259	Published
07.10.2022	America			30.04.2020

TPO No	22			
Appl No	PCT/US2018/022489	₩ <u>02018170166</u>		
Link to Appl	https://patentscope.w	vino int/search/en/det	ail isf?docId=WO2018	170166
Applicants	Metacrine Inc	ipo.int/search/en/det	<u>un.jsr.uoeid=wo2010</u>	170100
Priority Date	15 03 2017			
Details	The application is fo	or a basic molecule	ie farmesoid X rece	entor agonists for the
Details	treatment of HCV	and more than 10	other diseases suc	h as HIV-associated
	steatobenatitis and ci	rrhosis gastrointestir	al diseases ulcerative	colitis non-alcoholic
	steatohenatitis (NAS)	H) hiliary cirrhosis (Crohn's disease etc	contro, non-acconone
	Stoutonoputitio (111-5)	(1), omary enmosis,	cronn 5 discuse, etc.	
	The applicant filed 5	applications pertainir	ng to farsenoid X recept	otors on the same date.
	The scaffolds claime	ed in the present ap	plication are very sir	nilar to the scaffolds
	described in Metacrir	ne's other applications	s WO'165, WO'167, V	WO'173 and WO'182,
	with only minor char	iges in the substituent	ts substituted.	
Claims	Of the 57 claims, 2 at	re independent claims	s and 55 are dependen	t claims.
		_		
	The application claim	ns 10 Markush struct	tures and 65 specific c	compounds. Of the 10
	Markush structures,	1 is the primary Mark	cush structure and the	remaining 9 Markush
	structures are derive	d from it. The appli	cation discloses 1 mc	ore Markush structure
	(Formula X). Howev	er, this is not claimed	l.	
		1	· 11	14 1 1(
	The application at	so claims pharmac	centically acceptable	salts and solvates
	of the claimed compo	ounds.		
	There are 25 seconds	ary claims of which	3 are formulation clai	me 22 are method of
	treatment claims and	1 is a combination cl	aim (drafted as a meth	od of treatment claim
	there is no claim for a	a combination per se)	ann (ururou us a mem	ou or noument enamy,
ISR	The ISR, WOSA an	d IPRP have been r	ublished; the Korean	Intellectual Property
	Office is the ISA.		,	¥ ¥
	The ISR cites 5 docu	ments, of which 2 are	X documents, 2 are A	documents and 1 is a
	PX document.			
		the set has	(1	1 (1 ICD Parts the
	Though the search	strategy has not bee	en separately publish	ed, the ISK lists the
	electronic databases	searched as well as in	e search terms usea.	the ICD Of these 5
IPO	documents 1 docum	ort is used to assail n	2 were also cheu in	the ISK. Of the other Λ are
	used to assail inventi	we sten. Of the docur	ments cited 1 is a peri	dical and the other 4
	are patent documents	se step. of the docur	nents ened, 1 is a peri	oulear and the other +
		•		
	In the TPO, the nove	Ity ground is based or	n a PX document.	
Date of Filing	The TPO was filed or	n 15.07.2019.		
of TPO				
National Phase	Office	Entry Date	National Number	National Status
as of	Japan	02.09.2019	2019547662	
07.10.2022	Canada	09.09.2019	<u>3055990</u>	
	United States of	13.09.2019	<u>16494264</u>	Published
	America			30.04.2020
				Granted
		1		30.03.2021
	EPO	15.10.2019	201876094	<u>~ 111 1 1</u>
	China	15.11.2019	<u>201880032220.9</u>	Published
				31.12.2019

TPO No.	23			
Appl. No.	PCT/US2018/022490): WO2018170167		
Link to Appl.	https://patentscope.wi	ipo.int/search/en/detai	il.jsf?docId=WO2018	170167
Applicants	Metacrine, Inc.			
Priority Date	15.03.2017			
Details	The application is fo treatment of HCV steatohepatitis and cir steatohepatitis (NASF The applicant filed 5 a The coeffolds claims	r a basic molecule, and more than 10 rrhosis, gastrointestina H), biliary cirrhosis, C applications pertainin	i.e., farnesoid X rece other diseases such al diseases, ulcerative Crohn's disease, etc. g to farsenoid X recep	eptor agonists for the n as HIV-associated colitis, non-alcoholic ptors on the same date.
	described in Metacrin with only minor chan	e's other applications ges in the substituents	WO'165, WO'166, Wo s substituted.	WO'173 and WO'182,
Claims	Of the 70 claims, 2 ar	e independent claims	and 68 are dependent	t claims.
	The application claim Markush structures, 1 structures are derived	as 5 Markush structur is the primary Marku from it.	res and 104 specific ush structure and the r	compounds. Of the 5 remaining 4 Markush
	The application als of the claimed compo	so claims pharmace ounds.	eutically acceptable	salts and solvates
	There are 24 seconda treatment claims and there is no claim for <i>a</i>	ry claims, of which 3 1 is a combination cla a combination per se).	3 are formulation clai im (drafted as a meth	ms, 21 are method of od of treatment claim;
ISR	The ISR, WOSA and Office is the ISA.	d IPRP have been p	ublished; the Korean	Intellectual Property
	The ISR cites 5 docum PX document.	nents, of which 2 are	X documents, 2 are A	documents and 1 is a
	Though the search s electronic databases s	strategy has not been searched as well as the	n separately publishe e search terms used.	ed, the ISR lists the
ТРО	The TPO cites 5 do	cuments, of which 2	2 were also cited in	the ISR. Of these 5
	documents, 1 docume	ent is used to assail no	ovelty (a PX documer	nt) and the other 4 are
	used to assail inventiv	ve step. Of the docum	nents cited, 1 is a peri-	odical and the other 4
	are patent documents.	•		
Date of Filing of TPO	The TPO was filed on	ı 15.07.2019.		
National Phase	Office	Entry Date	National Number	National Status
as of	United States of	~	16494257	Published
07.10.2022	America			30.04.2020

TPO No.	24			
Appl. No.	PCT/US2018/022497	: WO2018170173		
Link to Appl.	https://patentscope.wi	ipo.int/search/en/deta	il.jsf?docId=WO2018	<u>170173</u>
Applicants	Metacrine, Inc.			
Priority Date	15.03.2017			
Details	The application is for treatment of HCV steatohepatitis and cin steatohepatitis (NASI	or a basic molecule, and more than 10 rrhosis, gastrointestin H), biliary cirrhosis, C	i.e., farnesoid X rece other diseases such al diseases, ulcerative Crohn's disease, etc.	eptor agonists for the h as HIV-associated colitis, non-alcoholic
	The applicant filed 5 a The scaffolds claime described in Metacrin with only minor chan	applications pertainin ed in the present applie's other applications ges in the substituent	g to farsenoid X recep plication are very sir s WO'165, WO'166, V s substituted.	otors on the same date. nilar to the scaffolds WO'167 and WO'182,
Claims	Of the 62 claims, 2 ar	e independent claims	and 60 are dependent	t claims.
ISR	The application claim Markush structures, 1 structures are derived (Formula XI and XII) The application als of the claimed compo There are 25 seconda treatment claims and there is no claim for a The ISR, WOSA and Office is the ISA	ns 9 Markush structu is the primary Mark from it. The applic the transformation of the transformation of the transformation of the transformation of the try claims, of which the try claims, of which the try claims, of which the try claims, of which the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of the transformation of transformation	ures and 85 specific cush structure and the cation discloses 2 mon not claimed. eutically acceptable 3 are formulation clai aim (drafted as a method	compounds. Of the 9 remaining 8 Markush re Markush structures salts and solvates ms, 22 are method of od of treatment claim; Intellectual Property
	The ISR cites 5 docur PX document. Though the search s electronic databases s	ments, of which 2 are strategy has not bee earched as well as the	X documents, 2 are A en separately publishe e search terms used.	documents and 1 is a ed, the ISR lists the
ТРО	The TPO cites 5 do documents, 1 docume used to assail inventi- are patent documents.	cuments, of which 2 ent is used to assail n- ve step. Of the docum	2 were also cited in ovelty (a PX documen nents cited, 1 is a peri	the ISR. Of these 5 nt) and the other 4 are odical and the other 4
Date of Filing of TPO	The TPO was filed or	n 15.07.2019.		
National Phase	Office	Entry Date	National Number	National Status
as of	United States of	-	16494266	Published
07.10.2022	America			30.04.2020

TPO No	25			
Appl No	PCT/US2018/02251	3· WO2018170182		
Link to Appl.	https://patentscope.y	vipo.int/search/en/de	tail.isf?docId=WO2018	170182
Applicants	Metacrine Inc			170102
Priority Date	15.03.2017			
Details	The application is f	for a basic molecule	. i.e., farnesoid X rece	ptor agonists for the
	treatment of HCV	and more than 1	0 other diseases such	as HIV-associated
	steatohepatitis and c	irrhosis, gastrointest	inal diseases, ulcerative	colitis, non-alcoholic
	steatohepatitis (NAS	SH), biliary cirrhosis,	Crohn's disease, etc.	
	The applicant filed 5	applications pertain	ing to farsenoid X recep	tors on the same date.
	The scaffolds claim	ned in the present a	pplication are very sin	nilar to the scaffolds
	described in Metacri	ne's other application	ns WO'165, WO'166, V	VO'167 and WO'173,
	with only minor cha	nges in the substituer	nts substituted.	1.
Claims	Of the 70 claims, 2 a	are independent clain	ns and 68 are dependent	claims.
	T TI 1. (* 1.*		1 5 40	
	The application clai	ms 9 Markush struc	tures and 540 specific	compounds. Of the 9
	Markush structures,	d from it	rkush structure and the	remaining 8 Markush
	structures are derive	a nom n.		
	The application a	lso claims pharma	accentically accentable	salts and solvates
	of the claimed comp	ounds.	acceptable	saits and solvates
		0.000		
	There are 25 second	lary claims, of which	and 3 are formulation claim	ms, 22 are method of
	treatment claims and	l 1 is a combination c	claim (drafted as a metho	od of treatment claim;
	there is no claim for	a combination per se	e).	
ISR	The ISR, WOSA and	nd IPRP have been	published; the Korean	Intellectual Property
	Office is the ISA.			
	The ISR cites 5 docu	uments, of which 2 ar	e X documents, 2 are A	documents and 1 is a
	PX document.			
	Theory 1 , (1), and (1)			I the ICD Parts the
	I hough the search	strategy has not be	en separately publishe	ed, the ISR lists the
TPO	The TPO cites 5 d	searched as well as t	2 ware also gited in	the ISP Of these 5
110	documents 1 docum	pent is used to assail	novelty (a PX documer	(it) and the other 4 are
	used to assail invent	ive step. Of the docr	ments cited. 1 is a perio	odical and the other 4
	are patent document	s.		
	In the TPO, the nove	elty ground is based of	on a PX document.	
Date of Filing	The TPO was filed of	on 15.07.2019.		
of TPO				
National Phase				
as of	Office	Entry Date	National Number	National Status
07.10.2022	Japan	02.09.2019	2019547663	
	Australia	03.09.2019	2018236275	Published
				26.09.2019
	Canada	09.09.2019	3056019	
	Philippines	10.09.2019	12019502058	
	Singapore	10.09.2019	11201908330P	
	Mexico	13.09.2019	MX/a/2019/010907	Published
	Linite 1 Stat	12.00.2010	16404272	10.12.2019
	United States of	13.09.2019	10494272	
	Brazil	24.00.2010	112010010154	01.02.2022
	Furacian Datant	24.09.2019	201002051	Published
	Organisation	50.09.2019	201772031	31 03 2020
	FPO	15 10 2010	2018768017	51.05.2020
1		13.10.2017	2010/0001/	

Republic of Korea	15.10.2019	1020197030348	Published
			25.10.2019
China	15.11.2019	20188003254.0	Published
			31.12.2019
India		20191741302	Published
			22.11.2019

TDO N	01			
TPO No.	31 DCT/CN2010/004/74_NLO201010/0022			
Appl. No.	PC1/CN2018/084674: W02018196823			
Link to Appl.	<u>https://patentscope.wipo.int/search/en/detail.jsf/docid=w02018196823</u>			
Applicants	Birdie Biopharmaceuticals, Inc. and Zeng Zhaohui			
Priority Date	27.04.2017			
Details	The application clai	ms 2-amino-quinolii	he derivatives that are	agonists of toll-like
	receptors / and 8 (1)	LR //8), its pharmace	eutical compositions, a	nd methods of use of
	and allergia d	compositions to the	at various diseases, su	ich as viral diseases,
Claims	The application has	A3 claims of which	v infection.	me and 30 damandant
Claims	claims There are 4	45 claims, or which Markush structures	1 is the main Markus	the structure and 3 are
	derived from the mai	$\frac{1}{100}$ n structure About $\frac{1}{7}$	specific compounds he	ave been claimed and
	additionally optional	ly substituted comp	ounds have also been	claimed There are 4
	secondary claims, of	which 1 is for a for	mulation (that includes	the dosage too). 1 is
	for the use of the co	ompounds and 2 are	e for method of treatm	ent. The compounds
	claimed are for treatr	nent of three broad c	ategories of diseases –	viral diseases, cancer
	and allergies, and spe	ecifically HCV too.	0	,
ISR	The ISR/WOSA/IPR	P were published, w	vith the State Intellectu	al Property Office of
	the P.R. of China bei	ng the office of ISA.	The ISR contains 3 get	neral documents.
ТРО	The TPO contained 3	documents, 1 of wh	nich would affect inven	tive step and 2 would
	affect both novelty an	nd inventive step of the	he claims in the applica	tion. Two of the prior
	art documents referr	red to in the TPO v	vere periodical articles	and 1 was a patent
	document. An addition	onal document was a	ttached in support of th	e prior art annexed.
Date of Filing	The TPO was filed of	n 27.8.2019.		
of TPO	- 1	1		1
National Phase	Office	Entry Date	National Number	National Status
as of	China	28.08.2019	201880014574.0	Published
07 10 2022				21.12.2010
07.10.2022		04.10.2010	2010250021	31.12.2019
07.10.2022	Australia	04.10.2019	2018259831	31.12.2019 Published
07.10.2022	Australia	04.10.2019	2018259831	31.12.2019 Published 31.10.2019
07.10.2022	Australia New Zealand	04.10.2019 04.10.2019	2018259831 757892	31.12.2019 Published 31.10.2019 Published 25.10.2019
07.10.2022	Australia New Zealand	04.10.2019 04.10.2019	2018259831 757892	31.12.2019 Published 31.10.2019 Published 25.10.2019
07.10.2022	Australia New Zealand Singapore	04.10.2019 04.10.2019 13.10.2019 23.10.2019	2018259831 757892 11201909325R 3061187	31.12.2019 Published 31.10.2019 Published 25.10.2019
07.10.2022	Australia New Zealand Singapore Canada Mexico	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676	31.12.2019 Published 31.10.2019 Published 25.10.2019
07.10.2022	Australia New Zealand Singapore Canada Mexico	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020
07.10.2022	Australia New Zealand Singapore Canada Mexico Japan	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 23.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020
07.10.2022	Australia New Zealand Singapore Canada Mexico Japan United States of	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of America	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020
07.10.2022	AustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of America	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted
07.10.2022	Australia New Zealand Singapore Canada Mexico Japan United States of America	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsrael	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazil	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019 05.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of Korea	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019 05.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of Korea	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019 05.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndia	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019 27.11.2019 20.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndia	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 27.10.2019 27.11.2019 20.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published 03.01.2019
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndiaEPO	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019 27.11.2019 20.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246 2018792253	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published 03.01.2019
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndiaEPORussian	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 25.10.2019 05.11.2019 27.11.2019 27.11.2019 27.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246 2018792253 201913877	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published 03.01.2019 Published 03.01.2019
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndiaEPORussian Federation	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 27.10.2019 27.11.2019 20.11.2019 27.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246 2018792253 201913877	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published 03.01.2019 Published 27.05.2021
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndiaEPORussian Federation	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 27.10.2019 27.11.2019 27.11.2019 27.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246 2018792253 201913877	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published 03.01.2019 Published 27.05.2021 Withdrawn
07.10.2022	AustraliaAustraliaNew ZealandSingaporeCanadaMexicoJapanUnited States of AmericaIsraelBrazilRepublic of KoreaIndiaEPORussian Federation	04.10.2019 04.10.2019 13.10.2019 23.10.2019 23.10.2019 25.10.2019 25.10.2019 25.10.2019 27.10.2019 27.11.2019 27.11.2019 27.11.2019 27.11.2019	2018259831 757892 11201909325R 3061187 MX/a/2019/012676 2019558496 16608581 270219 112019022246 1020197033158 201917047246 2018792253 201913877	31.12.2019 Published 31.10.2019 Published 25.10.2019 Published 05.03.2020 Published 20.02.2020 Granted 06.70.2021 Published 23.12.2019 Published 03.01.2019 Published 9.01.2021

TPO No.	35			
Appl. No.	PCT/US2018/032579	9: WO2018209354		
Link to Appl.	https://patentscope.w	vipo.int/search/en/deta	ail.jsfdocId=WO20182	09354
Applicants	Enanta Pharmaceutic	als, Inc.		
Priority Date	12.05.2017			
Details	The application clair	ns compounds with a	parent Markush struct	ture which inhibit the
	apoptosis signal-regu	lating kinase 1 (ASI	K-1), which is associate	ted with autoimmune
	disorders, neurodege	nerative disorders, inf	flammatory diseases, c	hronic kidney disease
	and cardiovascular di	sease. More specifica	ally, ASK-1 has been as	ssociated with hepatic
	steatosis, including	non-alcoholic fatty	liver disease (NAFLL	D) and non-alcoholic
	steatohepatitis (NAS	H). The parent Marki	ish structure comprises	s a pyridine or phenyl
	a 5 or 6 membered by	$1 \ge 18$ substituted with	an annue group which	shed to a 5 membered
	ring comprising 2 3	or 4 nitrogen atoms (F	(a) The central pyridine	or phenyl ring is also
	substituted at position	n 4 with an imidazole	ring, which itself is fu	rther substituted (R3):
	and is also substitute	ed at position 5 (R2)	(claim 1 of WO'354).	Also, to note that all
	claimed Markush sca	ffolds and compound	s are derived from a kn	own Gilead molecule
	selonsertib (primary	indication: non-alc	oholic steatohepatitis); wherein the only
	difference between t	his known compound	l and compounds of th	ne present application
~ .	are minor modification	ons to the substituents	s attached on the peripl	heral ring.
Claims	The application has 2	26 claims (1 independ	dent and 25 dependent	claims), of which 13
	are secondary claims	wherein I claim is fo	r formulation, 1 is for u	use and 11 for method
	of treatment. Of the	ordent The 36 derive	res, 1 is an independ	ent structure and the
	groups/families_each	containing 4 variatio	uns (i e Formulae Ia to	Id IIa-1 to IIa-4 IIb-
	1 to IIb-4. IVa-1 to I	Va-4. IVb-1 to IVb-4	. Va-1 to Va-4. Vb-1 to	\sim Vb-4. VIa-1 to VIa-
	4, VIb-1 to VIb-4).7	The applicant claims	600 specific compoun	ds in one claim. The
	applicant also claim	s pharmaceutically a	cceptable salt and est	ters of these claimed
	compounds. There is	one other claim which	h claims 71 specific co	ompounds. But, as per
	the trend of subsequ	ent applications, thes	e 71 should be a subs	et of the 600 specific
	compounds previous	ly claimed. This has	not been verified by ci	ross-checking each of
	the compounds.			
ISD	The ISP comprises 5	documents of which	2 have been listed for i	nyantiya stan (V) and
ISK	3 documents are as li	sted to describe only t	be general state of the	art and not considered
	to be of particular rel	levance (A). For all 4	of the Enanta applica	tions (see below), the
	ISR has been authore	ed by the same ISA.	· · · · · · · · · · · · · · · · · · ·	
		2		
TPO	The TPO was filed	on 12.09.2019 and c	comprised 3 prior art	documents. Of the 3
	documents, 1 docur	nent was not upload	led to the WIPO we	bsite. Two of the 3
	documents were pate	ent applications and 1	was a periodical articl	le. Also, 2 documents
	(1.e., patent documen	ts) were used for both	n novelty and inventive	e step and I periodical
Data of Filing	The TPO was filed only	n 12 00 2010		
of TPO	The IFO was med o	11 12.09.2019.		
National Phase	Office	Entry Date	National Number	National Status
as of	Canada	31.10.2019	3063180	
07.10.2022	Philippines	04.11.2019	12019550226	
	Singapore	06.11.2019	11201910327V	
	Israel	07.11.2019	270525	
	Japan	07.11.2019	2019561233	
	Mexico	07.11.2019	MX/a/2019/013275	Published
				13.08.2020
	Sri Lanka	08.11.2019	20855	
	Australia	14.11.2019	2018266911	Published
				05.12.2019

New Zealand	14.11.2019	759204	Published
			29.11.2019
Brazil	19.11.2019	11201923449	
Republic of Korea	09.12.2019	1020197036358	Published
			21.01.2020
India	10.12.2019	201947051124	Published
			13.12.2019
EPO	12.12.2019	2018798479	
Russian	12.12.2019	2019140447	Published
Federation			15.06,2021
China	07.01.2020	201880045573.2	Published
			06.03.2020

TPO No.	36
Appl. No.	PCT/US2018/034429: WO2018218044
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsfdocId=WO2018218044
Applicants	Enanta Pharmaceuticals, Inc.
Priority Date	25.05.2017
Details	The application claims compounds with a parent Markush structure which inhibit the
	apoptosis signal-regulating kinase I (ASK-1), which is associated with autoimmune
	and cardiovascular disease. More specifically ASK 1 has been associated with hepatic
	steatosis including non-alcoholic fatty liver disease (NAFLD) and non-alcoholic
	steatohepatitis (NASH). The parent Markush structure comprises a 5+6 bicyclic fused
	ring wherein the 5 membered ring may contain up to 2 heteroatoms and the 6 membered
	ring may either be a phenyl or pyridine ring. The 6 membered ring of the bicyclic ring
	is attached to an amide group which is further attached to a heteroaryl ring containing
	up to 3 nitrogen atoms, which itself is further substituted (R1, R2). The 5 membered
	ring of the bicyclic ring is also further substituted (R3) (claim 1 of WO'044).
	Compounds derived from the above parent Markush structure act on an identical target
	ASK-1 and are claimed for the purpose of treating disorders/diseases relating to liver
	advision dystruction as in the previous application wO 354. Also, the parent Markush structure and compounds claimed in the present application WO'044 are similar to the Markush
	structures claimed in Enanta's 3 other applications. However, the closest structural
	similarity can be found with the Markush structure of WO'354 wherein the parent
	Markush structure is comprised of a central phenyl/pyridine ring (6 membered ring)
	substituted with an imidazole ring, which has been replaced in the present application
	with a bicyclic ring structure containing phenyl/pyridine ring fused to an imidazole ring
Claima	(or oxazole, thiazole rings) at an analogous position.
Claims	are secondary claims wherein 2 claims are for formulation. 1 is for use and 11 for
	method of treatment. Of the 25 Markush structures, 1 is the primary Markush structure
	(Formula I) and 24 are derivative Markush structures. Of the 24 derivative Markush
	structures, 8 are Markush structures (IIa-h) belonging to Formula II and another 4 are
	Markush structures (IIIa-d) belonging to Formula III. The applicant claims 738 specific
	which claims 75 specific compounds. These 75 should be a subset of the 738 specific
	compounds previously claimed. This has been verified by cross-checking each of the
	compounds.
ISR	The ISR comprises 3 documents; all of them listed to describe only the general state of
	the art and not considered to be of particular relevance (A). The application was
	initially published as an A2 document without the ISR; it was based on this that the
	TPO was filed. After the TPO was filed, the ISR was made available in the documents
	document referred to by both the TPO and the ISP, this has not been included in "No
	of ISR documents used in TPO". For all 4 of the Enanta applications, the ISR has been
	authored by the same ISA. Of the four, 3 of these applications (i.e., WO'042, WO'044
	and WO'051) comprise a central fused ring in the scaffold; for these 3 applications, the
	prior art documents listed in the ISRs are identical.
ТРО	The TPO was filed on 24.09.2019 and comprises 4 prior art documents. Of the 4
	documents, 1 document was not uploaded to the wIPO website. Infee of the 4
	(i.e. patent documents) were used for both novelty and inventive step and 2 documents
	(patent and periodical article each) were used only for inventive step and 2 documents (patent and periodical article each) were used only for inventive step. A single patent
	document, i.e., WO2016049069, was used as a prior art document in both the present
	application and the previous application WO'354. Also, all 4 prior art documents used
	in the TPO of the present application were also been used in 2 other Enanta
Dete of Filing	applications, WO'042 and WO'051.
of TPO	The TPO was filed on 24.09.2019.

National Phase	No national phase entries
as of	
07.10.2022	

TPO No.	37
Appl. No.	PCT/US2018/034423: WO2018218042
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsfdocId=WO2018218042
Applicants	Enanta Pharmaceuticals, Inc.
Priority Date	25.05.2017
Details	The application claims compounds with a parent Markush structure which inhibit the apoptosis signal-regulating kinase 1 (ASK-1), which is associated with autoimmune disorders, neurodegenerative disorders, inflammatory diseases, chronic kidney disease and cardiovascular disease. More specifically, ASK-1 has been associated with hepatic steatosis, including non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH). The parent Markush structure comprises a 6 + 6 bicyclic fused ring wherein a 6 membered aromatic ring containing up to 2 nitrogen atoms is fused to another 6 membered ring (either a phenyl or pyridine ring). The phenyl/pyridine ring of the bicyclic ring is attached to an amide group which is further attached to a heteroaryl ring containing up to 3 nitrogen atoms which itself is further substituted (R1, R2). The other 6 membered ring of the bicyclic ring is also further substituted (R3 and R4) (claim 1 of WO'042).
	Compounds derived from the above parent Markush structure act on an identical target ASK-1 and are claimed for the purpose of treating disorders/diseases relating to liver dysfunction as in the previous applications WO'354 and WO'044. Also, the parent Markush structure and compounds claimed in the present application WO'042 are similar to the Markush structures claimed in the other three Enanta applications. However, the closest structural similarity can be found with the Markush structure of WO'044 wherein the scaffold also comprises a central phenyl/pyridine ring (6 membered ring). However, in WO'044 this central ring is fused to an imidazole ring (or oxazole, thiazole rings) a 5 membered ring containing 2 nitrogen atoms which has been replaced in the present application, with a 6 membered pyrimidine ring also containing 2 nitrogen atoms.
Claims	The application has 36 claims (1 independent and 35 dependent claims), of which 14 are secondary claims wherein 2 claims are for formulation, 1 is for use and 11 for method of treatment. Of the 35 Markush structures, 1 is the primary Markush structure (Formula I) and 34 are derivative Markush structures. Of the 34 derivative Markush structures, 8 are Markush structures (IIa-h) belonging to Formula II and another 8 are Markush structures (IIIa-h) belonging to Formula III. The applicant claims 1440 specific compounds and pharmaceutically acceptable salts and esters thereof. There is one further claim which claims 41 specific compounds. These 41 should be a subset of the 1440 specific compounds previously claimed. This has been verified by cross-checking each of the compounds.
ISR	The ISR comprises 3 documents, all of them listed to describe only the general state of the art and not considered to be of particular relevance (A). For all 4 of the Enanta applications, the ISR has been authored by the same ISA; and for 3 of these applications (i.e., WO'042, WO'044 and WO'051) which comprise a central fused ring in the scaffold, the prior art documents listed in the ISR are identical. However, at the time of filing the TPO for WO'042, the ISR was available, unlike with the previous described application WO'044. One of the documents (US 8378108 by Gilead Sciences Inc.) listed in the ISR has been used as a prior art document for the TPO (WO version of the patent, i.e., WO2011008709) and has been included in "No. of ISR documents used in TPO".
ТРО	The TPO was filed on 25.09.2019 and comprises 4 prior art documents. Of the 4, 3 were patent applications and 1 was a periodical article. Also, 2 documents (i.e., patent documents) were used for both novelty and inventive step and 2 documents (patent and periodical article each) were used only for inventive step. A single patent document, i.e., WO2016049069, was used as a prior art document in both the present application

	and WO'354. Also, all 4 prior art documents used in the TPO of the present application were also used in 2 other Enanta applications WO'044 and WO'051.
Date of Filing	The TPO was filed on 25.09.2019.
of TPO	
National Phase	No national phase entries
as of	
07.10.2022	

TPO No.	38		
Appl. No.	PCT/US2018/034441: WO2018218051		
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsfdocId=WO2018218051		
Applicants	Enanta Pharmaceuticals, Inc.		
Priority Date	25.05.2017		
Details	The application claims compounds with a parent Markush structure which inhibit the		
	apoptosis signal-regulating kinase 1 (ASK-1), which is associated with autoimmune		
	disorders, neurodegenerative disorders, inflammatory diseases, chronic kidney disease		
	and cardiovascular disease. More specifically, ASK-1 has been associated with hepatic		
	steatosis, including non-alcoholic fatty liver disease (NAFLD) and non-alcoholic		
	steatonepatitis (NASH). The parent Markush structure comprises a $0 + 0$ bicyclic fused		
	a single nitrogen atom) and the other 6 membered ring fused to it may be either a phenyl		
	or pyridine ring. The phenyl/pyridine ring of the bicyclic ring is attached to an amide		
	group which is further attached to a heteroaryl ring containing up to 3 nitrogen atoms		
	which itself is further substituted (R1, R2). The piperidine ring of this bicyclic ring		
	system is also further substituted on the nitrogen atom (R3) (claim 1 of WO'051).		
	Compounds derived from the above parent Markush structure act on an identical target		
	ASK-1 and are claimed for the purpose of treating disorders/diseases relating to liver		
	dysfunction as in the previous applications WO'354, WO'044 and WO'042. Also, the		
	parent Markush structure and compounds claimed in the present application WO'051		
	are similar to the Markush structures claimed in the other three applications. However, the closest structured similarity can be found with the Markush structure of $WO'042$		
	which comprises a central phenyl/pyridine ring fused to an unsaturated six membered		
	ring containing up to 2 nitrogen atoms: whereas in WO'051 the central phenyl/pyridine		
	ring is fused to a saturated analogue of an identical six membered ring (i.e., piperidine;		
	containing a single nitrogen atom).		
Claims	The application has 28 claims (1 independent and 27 dependent claims), of which 14		
	are secondary claims wherein 2 claims are for formulation, 1 is for use and 11 for		
	method of treatment. Of the 19 Markush structures, 1 is the primary Markush structure		
	(Formula I) and 18 are derivative Markush structures. Of the 18 derivative Markush		
	Structures, 2 are Markush structures (XIIa-XIIb) belonging to Formula XII, 2 are Markush structures (XIIa XIIb) belonging to Formula XII. 2 are		
	(XIVa-XIVb) belonging to Formula XIV and another 2 are Markush structures (XVa-		
	(XVb) belonging to Formula XV. The applicant claims 600 specific compounds and		
	pharmaceutically acceptable salt forms thereof. There is one further claim which claims		
	364 specific compounds. But, as per the trend of subsequent applications, these 364		
	should be a subset of the 600 specific compounds previously claimed. This has not		
	been verified by cross-checking each of the compounds.		
ISR	The ISR comprises 3 documents, all of them listed to describe only the general state of		
	the art and not considered to be of particular relevance (A). For all 4 of the Enanta		
	applications, the ISR has been authored by the same ISA; and for three of these		
	applications (i.e., WO'042, WO'044 and WO'051) which comprise a central fused ring		
	in the scattold, the prior art documents listed in the ISR are identical. However, at the		
	described application WO'044 and one of the desuments (US \$272102 by Closed		
	Sciences Inc.) listed in the ISR has been used as a prior art document for the TPO (WO		
	version of the patent i.e. WO2011008709)		
ТРО	The TPO was filed on 25.09.2019 and comprises 4 prior art documents. Of the 4-3		
	were patent applications and 1 was a periodical article. Also, 2 documents (i.e., patent		
	documents) were used for both novelty and inventive step and 2 documents (patent and		
	periodical article each) were used only for inventive step. A single patent document,		
	i.e., WO2016/049069, has been used as a prior art document in both the present		

	application and WO'354. Also, all 4 prior art documents used in the TPO of the present application were also used in 2 other Enanta applications WO'044 and WO'042.
Date of Filing	The TPO was filed on 25.09.2019.
of TPO	
National Phase	No national phase entries
as of	
07.10.2022	

TPO No.	44				
Appl. No.	PCT/EP2018/071156: WO2019025600				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019025600				
Applicants	Sandoz AG, Switzerla	and			
Priority Date	03.08.2017				
Details	The application claim	ns sofosbuvir hydrate	, more precisely the m	nonohydrate form, for	
	the treatment of HCV and pharmaceutical compositions thereof. It is the NS5B				
	polymerase inhibitor	of the hepatitis C viru	us.		
Claims	The application has	16 claims, 1 independent	ndent and 15 depend	ent claims. This is a	
	secondary application	n, so all 16 claims are	secondary claims, mai	inly for the crystalline	
	form of the hydrate co	ompound – 6 claims f	for the hydrate, 9 clain	ns for compositions, 1	
	claim for the proces	s thereof. The hydr	ate is characterised	using XRPD, fourier	
	transform infrared sp	ectrum, differential s	canning calorimeter.	There are 2 claims for	
	use of the compound -1 of which is for preparation of the pharmaceutical composition				
ICD	and 1 is for use of treatment of viral infections, HCV.				
ISK	The ISR/WOSA/IPR	P were published, w	vith the European Par	tent Office, Rijswijk,	
	Netherlands, being th	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed 5 prior art docume	ents, 4 of which were	
	general documents an	a radionity data but an	ainst the noverty claim	f of the applicants (but	
TDO	The TPO used 4 prior	art documents 1 of y	tor to the ming date of	n the application).	
IFO	used in the TPO challenged the inventive step and 2 challenged both inventive step and				
	novelty of the claims in the application. Three of the prior art documents were				
	net prior and 1 was a patent document				
Date of Filing	The TPO was filed on 3 12 2019				
of TPO					
National Phase	Office	Entry Date	National Number	National Status	
as of	EPO	03.03.2020	2018748923		
07.10.2022	LIO 05.05.2020 2010/40925				

Appl. No. PCT/US2018/052239: WO/2019/060740 Link to Appl. https://patentscope.wipo.imt/search/en/detail.jsfdoc1d=WO2019/060740 Applicants Riboscience LLC Priority Date 21.09.2017 Details The application claims combinations of nucleoside derivatives as inhibitors of HCV replicon RNA replication. In particular, the application and pharmaceutical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobuvir; wherein Formula II comprises an identical nucleobase uridine; and nucleobase in Formula II is crytiline (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various form (specifically prodrugs), 36 are secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine enspecifieve). First, the formulac claimed show minor changes in the substituents stached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at (a' 2' and 4' position). The secondary method of treatment claims is directed to 15 specific compounds, i.e., 15 cytidine nucleoside analogues. The splication als as a independent claim. So the application relate to 19 specific 15 compounds, i.e., 15 cytidine nucle	TPO No.	51				
Link to Appl. https://patentscope.wipo.int/search/en/detail_jsfdocld=WO2019060740 Applicants Riboscience LLC Priority Date 21.09.2017 Details The application claims combinations of nucleoside derivatives as inhibitors of subgenomic hepatitis C virus RNA replication is noemend with the use of combinations of cytidine and uridine pyrimidine nucleoside derivatives as inhibitors of subgenomic hepatitis C virus RNA replication and pharmaceutical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobavir, wherein Formula II is cytidine (replacement of one oxo group of uridine with an a maine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 73 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims are also combination of prodrugs of nucleoside analogues, i.e., cycline and uridine respectively. First, the formulac claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position of the sugar moiety, the parent molecule itseff will differ. Second, 1 of the independent ada substituents baterod as a basic molecule application. The secondary method of reatment claims of the application relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues. The secondary method of reatment claims of the application relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues, the stereoisomers. Of the 5 indepe	Appl. No.	PCT/US2018/052239: WO/2019/060740				
Applicants Riboscience LLC Priority Date 21.09.2017 Details The application claims combinations of nucleoside derivatives as inhibitors of HCV replicon RNA replication. In particular, the application and pharmaceutical compositions containing such compounds. The application and pharmaceutical compositions containing such compounds. The application and pharmaceutical nucleosate arising such compounds. The application and pharmaceutical nucleobase in formula II comprises an identical nucleobase in the defined Markush structures. Claims The application II is sytified (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application lais '37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims are also combination of prodrugs of mucleoside analogues, i.e., cytidine and uridine analogues. This application has 37 claims (5 independent and 32 dependent claims), the prodrugs are depicted by 2 Markush structures, i.e., Formulae 1 and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents atached to the sugar moiety of the nucleoside (a 12' and 4' position O Lbu to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., 15 cytidine nucleoside analogues. Are sproking or cytidine anulceoside analogues. T	Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsfdocId=WO2019060740				
Priority Date 21.09.2017 Details The application claims combinations of nucleoside derivatives as inhibitors of HCV replicon RNA replication. In particular, the application is concerned with the use of combinations of cytidine and uridine pyrimidine nucleoside derivatives as inhibitors of subgenomic hepatitis C virus RNA replication and pharmacentical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobury; wherein Formula II is crytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5) independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, 1 claim is for formulation. 35 are for method of treatment and all the secondary claims are also combination of parkarge of nucleoside analogues, i.e., claims are dalso combination of prodrugs of nucleoside analogues, i.e., claims are dalso combination in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary of ordings or cytidine and uridine nucleoside analogues. The secondary method of treatatment claims is directed to 19 specific compounds,	Applicants	Riboscience LLC				
Details The application claims combinations of nucleoside derivatives as inhibitors of HCV replicon RNA replication. In particular, the application is concerned with the use of combinations of cytidine and uridine pyrimidine nucleoside derivatives as inhibitors of subgenomic hepatitis C virus RNA replication and pharmaceutical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant laleges as synergistic effect for the claimed combination. The applicant laleges as synergistic effect for the claimed combination and incleobase in Formula II comprises an identical nucleobase uridine; and nucleobase in Formula II is cytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, are also combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs or nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the aubleoside (at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims, is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of reach of the application relate to 2 Markush structures, i.e., forcidine nucleoside analogues. The secondary method of treatment claims are for treating	Priority Date	21.09.2017				
 replicon RNA replication. In particular, the application is concerned with the use of combinations of cytidine and uridine pyrimidine nucleoside derivatives as inhibitors of subgenomic hepatitis C virus RNA replication and pharmaceutical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobuvir; wherein Formula II comprises an identical nucleobase uridine; and nucleobase in Formula II is cytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the saffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues and pharmaccularally acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents statched to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2 and 4' position of the sugar moiety, the parent molecule itself will differ. Second, I of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues, the stereoisomers are not counted as a basic molecule application. The secondary method of treatment claims of the sapplication relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The sepoinde compounds, i.e., 15 cytidine nucleoside a	Details	The application claims combinations of nucleoside derivatives as inhibitors of HCV				
 combinations of cytidine and uridine pyrimidine nucleoside derivatives as inhibitors of subgenomic hepatitis C virus RNA replication and pharmaceutical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobuvir; wherein Formula II is cytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug porting of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs of nucleoside analogues in the substituents attached to the sugar moiety of the nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside analogues. The specific compounds, i.e., prodrugs of cytidine nucleoside analogues. The specific compounds, i.e., prodrugs of cytidine nucleoside analogues (and their stereoisomers of reads of the specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues (and their stereoisomers of reads of the saperific 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues (and their stereoisomers) and 4 uridine n		replicon RNA replication. In particular, the application is concerned with the use of				
 subgenomic hepatitis C virus RNA replication and pharmaceutical compositions containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobuvir; wherein Formula II is cytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position. The secondary method of treatment claims is directed to 15 specific compounds, i.e., If of the analogues. The secondary method of treatment claims and olgues. The secondary method of treatment claims and slogues. The secondary method of treatment claims are 15 cytidine analogues. The application also has an independent claim 5, i.e., prodrugs of cytidine analogues. The application also has an independent claims, are method of treatment claims are for each of the specific 15 cytidine nucleoside analogues and their stereoisomers for each of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The application claims stereoisomers for each of the application relate to 2 Markush structures of prodrugs		combinations of cytidine and uridine pyrimidine nucleoside derivatives as inhibitors of				
 containing such compounds. The applicant alleges a synergistic effect for the claimed combination. The applicant claims modified forms of a known anti-HCV drug sofobuvir; wherein Formula II comprises an identical nucleobase uridine; and nucleobase in Formula II is cytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoranidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formula I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, I of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of ceptidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. The specific co		subgenomic hepatitis C virus RNA replication and pharmaceutical compositions				
 combination. The applicant claims modified forms of a known anti-HCV drug sofobuvir; wherein Formula II is cytidine (replacement of one oxo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, 1 claim is for formulation, 33 are for method of treatment and all the secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae 1 and II represent prodrugs of nucleoside analogues in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., profugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims are not counted as separate compounds. The application alogues (and their stereoisomers) and 4 uridine nucleoside analogues. The secondary method of treatment claims are not counted as separate compounds. The application alogues in the substituents at a dreated to the specific 15 cytidine nucleoside analogues, an independent claim (relating to the claimed for the same		containing such compounds. The applicant alleges a synergistic effect for the claimed				
 sofobuvir; wherein Formula II comprises an identical nucleobase uridine; and nucleobase in Formula II is cytidine (replacement of one xoo group of uridine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoranidate prodrug portion of the scaffold in both of the claime Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents statched to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position. Due to the possibility of various substituents being attached at 2' and 4' position. The secondary method of treatment claims is or he application relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application the stereoisomers for each of the specific 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. The secondary method of treatment claims is for idependent claim of specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. The application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application claims for prodrugs of cytidine a		combination. The applicant claims modified forms of a known anti-HCV drug				
nucleobase in Formula II is cytidine (replacement of one oxo group of urdine with an amine group). Further minor modifications have also been carried out on the sugar moiety attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs). 36 are secondary claims, 1 claim is for formulation, 35 are for method of treatment and all the secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, I of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claim stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers of each of the specific 15 cytidine nucleoside analogues, the stereoisomers of the 55 independent claims, 3 are method of treatment claims, 1 is a composition claim for the camb 15 cytidine nucleoside analogues and their stereoisomers (sofobuvir; wherein Formula II comprises an identical nucleobase uridine; and				
amine group). Further minor monifications have also been carried out on the sugar molecty attached to the nucleobase; and also on the phosphoramidate prodrug portion of the scaffold in both of the claimed Markush structures. The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, 1 claim is for formulation, 35 are for method of treatment and all the secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents statched to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. Though the application claims steroisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim stere of treating HCV with a combination with NS3A HCV protease inhibitors (n = 1) and NS5		nucleobase in Formula II is cylidine (replacement of one oxo group of uridine with an				
Claims Claims The scaffold in both of the claimed Markush structures. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, 1 claim is for formulation, 35 are for method of treatment and all the secondary claims, are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., profugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues, the stereoisomers for each of the specific 15 cytidine nucleoside analogues, an independent claim for the same 15 cytidine nucleoside analogues. The application also has an independent claim, 3 are method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues. Inc., prodrugs of cytidine and uridine analogues. The 3 independent method of treatment claims are to camposition of prodrugs of cytidine and uridine analogues. In 53 HCV polymerase inhibitors, 1 is a composition claim (c		amine group). Further minor modifications have also been carried out on the sugar				
Claims The scandor in both of the claimed whatkus students. Claims The application has 37 claims (5 independent and 32 dependent claims), wherein all 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims, 1 claim is for formulation, 35 are for method of treatment and all the secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, I of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims storeoisomers) and 4 uridine nucleoside analogues. Though the application claim stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a composition claim. For the purpose of this analysis, this claim has not been counted as a compositio		of the scaffold in both of the claimed Markush structures				
The application has 57 chains (5 independent and 52 depending chains), whetch an 37 of the claims are for various forms (specifically prodrugs), 36 are secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae 1 and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The sterooisomers are not counted as separate compounds. The application claims stereoisomers are not counted as separate compounds. The application also has an independent claims, a remethod of treatment claims, 1 is a composition claim for the combination of prodrugs of cytidine and uridine analogues of cytidine analogues in hibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine analogues. One dependent claim 32, are method of treatment claims, 1 is a composition claim for the combination of prodrugs of cytidine analogues. One dependent claim in the there combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors. Thir	Claima	The application has 27 cloims (5 independent and 22 dependent cloims), wherein all 27				
claim is for formulation, 35 are for method of treatment and all the secondary claims are also combination claims. The application is primarily directed at methods of treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues of cytidine and uridine analogues of cytidine and uridine analogues of cytidine analogues of cytidine and uridine analogues of cytidine analogues of cytidine and uridine analogues of treating to the claimed combination of prodrugs of cytidine and uridine analogues of the claimed combination of prodrugs of cytidine and uridine analogues of the state of the same 15 cytidine analogues. The application also has an independent claim for the claimed combination of prodrugs of cytidine and uridine analogues of cytidine analogues of the same 15 cytidine analogues for prodrugs of cytidine and uri	Claims	of the claims are for various forms (specifically prodrugs) 36 are secondary claims 1				
are also combination (35 mc) for method of treatment and an the first secondary enhances and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers for each of the sagnart compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim sans to been counted as a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Ther is only 1 formulatio		claim is for formulation 35 are for method of treatment and all the secondary claims.				
treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 c		are also combination claims. The application is primarily directed at methods of				
uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination of prodrugs of cytidine and uridine nucleoside analogues inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. For the purpose of this anal		treatment with a combination of prodrugs of nucleoside analogues, i.e., cytidine and				
are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. The application claims stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine analogues. One dependent claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition in the ry-six of the 37 claims are secondary claims (method of treatment claims, 31 are for a combination of prodrugs of cytidine analogues. One claim is for the prodrugs of cytidine analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine analogues. Of t		uridine analogues and pharmaceutically acceptable salt forms thereof. The prodrugs				
nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. So the prodrugs of cytidine nucleoside analogues. Ore		are depicted by 2 Markush structures, i.e., Formulae I and II represent prodrugs of				
show minor changes in the substituents attached to the sugar moiety of the nucleoside (at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim instead of a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination of produss of cytidine and uridine analogues and 4 are for further combination of produs		nucleoside analogues of cytidine and uridine respectively. First, the formulae claimed				
(at 2' and 4' position). Due to the possibility of various substituents being attached at 2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n= 1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the claim sot been counted as a composition claim. For the purpose of this analysis, this claim has not been counted a a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine nucleoside analogues. On e claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues. Of the 3		show minor changes in the substituents attached to the sugar moiety of the nucleoside				
2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1 of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV prote		(at 2' and 4' position). Due to the possibility of various substituents being attached at				
of the independent claims is directed to 15 specific compounds, i.e., prodrugs of cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment claims, 31 are for a combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims (method of treatment claims, 31 are for a combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims (method of treatment or comparison claim. Thirty-six of the 37 claims are secondary claims (method of treatment or claims, 31 are for a combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors.		2' and 4' position of the sugar moiety, the parent molecule itself will differ. Second, 1				
cytidine nucleoside analogues. This application has, therefore, been marked as a basic molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine analogues. One dependent claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine and uridine nucleoside analogues.		of the independent claims is directed to 15 specific compounds, i.e., prodrugs of				
molecule application. The secondary method of treatment claims of the application relate to 2 Markush structures of prodrugs of cytidine and uridine nucleoside analogues. The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		cytidine nucleoside analogues. This application has, therefore, been marked as a basic				
The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine analogues. One dependent claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		molecule application. The secondary method of treatment claims of the application				
The secondary method of treatment claims also relate to 19 specific compounds, i.e., 15 cytidine nucleoside analogues (and their stereoisomers) and 4 uridine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidite analogues. One dependent claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine and uridine analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues.		relate to 2 Markush structures of prodrugs of cytidine and undine nucleoside analogues.				
analogues. Though the application claims stereoisomers) and 4 undine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		The secondary method of treatment claims also relate to 19 specific compounds, i.e.,				
cytidine nucleoside analogues, the stereoisoners for each of the specific 15 cytidine nucleoside analogues, the stereoisomers are not counted as separate compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment claims, 31 are for a combination of prodrugs of cytidine analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		15 cyliaine nucleoside analogues (and their stereoisomers) and 4 unaine nucleoside analogues. Though the application claims stereoisomers for each of the specific 15				
compounds. The application also has an independent claim for the same 15 cytidine nucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		analogues. Though the application claims stereoisomers for each of the specific 15				
rucleoside analogues and their stereoisomers. Of the 5 independent claims, 3 are method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		compounds. The application also has an independent claim for the same 15 cytidine				
method of treatment claims, 1 is a composition claim (relating to the claimed combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		nucleoside analogues and their stereoisomers. Of the 5 independent claims 3 are				
combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		method of treatment claims 1 is a composition claim (relating to the claimed				
analogues. The 3 independent method of treatment claims are for treating HCV with a combination of prodrugs of cytidine and uridine analogues $(n=1)$, and in further combination with NS3A HCV protease inhibitors $(n = 1)$ and NS5B HCV polymerase inhibitors $(n = 1)$. There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		combination) and 1 is a claim for specific compounds, i.e., prodrugs of cytidine				
combination of prodrugs of cytidine and uridine analogues (n=1), and in further combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		analogues. The 3 independent method of treatment claims are for treating HCV with a				
combination with NS3A HCV protease inhibitors (n = 1) and NS5B HCV polymerase inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		combination of prodrugs of cytidine and uridine analogues (n=1), and in further				
inhibitors (n = 1). There is only 1 formulation claim for the combination of prodrugs of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		combination with NS3A HCV protease inhibitors ($n = 1$) and NS5B HCV polymerase				
of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		inhibitors $(n = 1)$. There is only 1 formulation claim for the combination of prodrugs				
to have been erroneously drafted as a method of treatment claim instead of a composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		of cytidine and uridine nucleoside analogues. One dependent claim (claim 32) seems				
composition claim. For the purpose of this analysis, this claim has not been counted as a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		to have been erroneously drafted as a method of treatment claim instead of a				
a composition claim. Thirty-six of the 37 claims are secondary claims (method of treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		composition claim. For the purpose of this analysis, this claim has not been counted as				
treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues. One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		a composition claim. Thirty-six of the 37 claims are secondary claims (method of				
One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of treatment claims, 31 are for a combination of prodrugs of cytidine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		treatment or composition) re prodrugs of cytidine and uridine nucleoside analogues.				
treatment claims, 31 are for a combination of prodrugs of cytildine and uridine analogues and 4 are for further combination with NS3A HCV protease inhibitors or NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		One claim is for the prodrugs of cytidine nucleoside analogues. Of the 35 method of				
NS5B HCV polymerase inhibitors. Thirty-six of the 37 claims are combination claims		treatment claims, 31 are for a combination of prodrugs of cytidine and undine				
INSSERUV polymerase inhibitors. I nirty-six of the 37 claims are combination claims		analogues and 4 are for further combination with NS3A HCV protease inhibitors or				
wherein combinations of prodrugs of systiding (Formula I) and uniding (Formula II)		wherein combinations of prodrugs of outiding (Formula I) and uniding (Formula II)				
nucleoside derivatives are claimed. Some of the claims are for combination with further		nucleoside derivatives are claimed. Some of the claims are for combination with further				

	therapeutic agents. Only 1 claim, which is for specific cytidine nucleoside analogues (claim 37), is not a combination claim.				
ISR	The ISR comprises 3 documents, all of them listed to describe only the general state of the art and not considered to be of particular relevance (A). However, the ISA notes that in light of one of the documents listed in the ISR (i.e., US8334270B2; Sofia et al.), the claimed invention lacks unity of invention as it does not provide a contribution over the existing prior art.				
ТРО	The TPO was filed on 21.01.2020 and comprises 2 prior art documents. Of the 2 documents, 1 was a patent application and the other a book chapter. Both the prior art documents were used for both novelty and inventive step. A table of comparison of structures disclosed in prior art (WO 2014/186637) and the structures claimed in the application was uploaded as an additional document.				
Date of Filing of TPO	The TPO was filed or	n 21.01.2020.			
National Phase as of 07.10.2022	Office Australia	Entry Date 09.03.2020	National Number2018335411	National StatusPublished26.03.2020	
	Canada	11.03.2020	3075645		
	Israel	17.03.2020	273398		
	Japan	19.03.2020	2020538752		
	China	20.03.2020	201880061322.3	Published 22.05.2020	
	New Zealand	20.03.2020	762823	Published 27.03.2020	
	Republic of Korea	16.04.2020	1020207011082	Published 22.05.2020	
EPO 21.04.2020 2018859097					

TPO No.	57
Appl. No.	PCT/US2018/054574: WO/2019/071105
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsfdocId=WO2019071105
Applicants	Spring Bank Pharmaceuticals, Inc.
Priority Date	05.10.2017
Details	The application claims a crystalline form of SB9200 (also known as inagravirsoproxil) that is diastereomerically pure and stable at certain conditions, i.e., the Rp form of SB9200 and its hemi-tartrate salt. It also claims certain specific pharmaceutically acceptable salts thereof (i.e., hemi-tartrate salt, oxalate salt, citrate salt and fumarate salt), and compositions thereof and methods of using them. SB9200 is under clinical trials for treatment of HBV and HCV. It appears that Spring Bank has discontinued development of inarigivir to treat hepatitis B after the death of a patient (https://www.clinicaltrialsarena.com/news/spring-bank-stops-inarigivir-hbv/). It further appears that Spring Bank has suspended development of inarigivir for HIV, but is still exploring or licensing it for HCV and also planning its clinical trials as an adjuvant therapy for COVID-19 infections (https://adisinsight.springer.com/drugs/800038150).
Claims	The application has 87 claims (8 independent and 79 dependent claims), wherein all 87 claims are secondary claims, 20 of the claims are for various forms, 55 are for formulation, 7 are for method of treatment, 35 are for combination and 10 are "other" claims. Of the 20 claims for forms, 5 are product by process claims. The applicant claims the Rp form of SB9200 and the Rp form of the hemi-tartrate salt of SB9200 and characterises them using XRPD and ^P NMR. It also claims the hemi-tartrate salt, oxalate salt, citrate salt and fumarate salt of SB9200. Of the 55 claims for formulations, 12 are for compositions of Formula I, 13 are for Formula III, 27 are for combination of SB9200 with tenofovir or its prodrugs, and 3 are for solid oral dosage form. In the claims for composition, particulate composition and pharmaceutical composition of the aforementioned combinations. In some of the formulation claims, the applicant characterises the composition as free from chemical impurities and lists the impurities, including the S-isomer. Of the 35 combination claims, 28 are drafted as claims for formulations (compositions or oral solid dosage form) and 7 are for method of treatment using the claimed compositions. Of the 10 "other" claims, 5 are process claims and 5 are product by process claims, the product being the Rp form. The product by process claims, therefore, overlap with the claims for the crystalline forms.
ISR	The ISR comprises 3 documents, all of them listed to describe only the general state of the art and not considered to be of particular relevance (A). However, the ISA (the ISA for the present application, WO'740 and the Enanta applications above is the same entity) notes that in light of one of the documents listed in the ISR (i.e., Coughlin et al.), the claimed invention lacks unity of invention as it does not provide a contribution over the existing prior art.
TPO	The TPO was filed on 05.02.2020 and comprises 5 prior art documents. Of the 5, 2 are patent applications and 3 are book chapters. One additional patent document was filed with 1 of the patent documents. None of the books were uploaded. Two documents were used for both novelty and inventive step, and 3 documents were used only for inventive step.
of TPO	
National Phase as of 07.10.2022	No national phase entries

PART C: Case Summaries: TB Applications

TPO No.	2		
Appl. No.	PCT/SG2017/050553: WO2018084809		
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018084809		
Applicants	Nanyang Technological University, Schweizerisches Tropen- und Public		
	Health-Institut and Universitat Basel Vizerektorat Forschung		
Priority Date	02.11.2016		
Details	The application is for the method of treating or preventing various mycobacteria deficient for or expressing cytochrome bd oxidase or a disease resulting from such infection. It claims the use of a compound capable of inhibiting cytochrome bc1 of the respiratory electron transport chain in combination with a therapeutic agent capable of inhibiting cytochrome bd oxidase. It specifically claims four such mycobacteria and three diseases, tuberculosis, leprosy and buruli ulcer.		
Claims	The application has 16 claims, all of which are secondary claims, that is, they are all method of treatment claims. There are 2 Markush structures containing an imidazopyridine and an imidazothiazole scaffold and 11 specific compounds, including Q203, with a couple of claims for the combination of the drug with other drugs, and wherein the method kills the mycobacterium.		
	The applicant also includes method of treatment with combinations of the claimed compounds with an additional therapeutic agent capable of inhibiting cytochrome bd oxidase. It specifically claims a combination with "quinolone compounds, Aurachin, nitric oxide (NO) donors such as PA-824, antibiotics LL- Z1272, Gramicidin S, and derivatives thereof". Interestingly, the WOSA points out that because the priority document did not disclose method of treatment with combination, the priority claim is invalid for the combination claims (claims 9 to 16).		
ISR	The ISR had about 9 documents, comprising 5 documents and an additional 2 documents (published after the priority date, but before the filing date) that challenged the novelty of the drug, and 2 general documents.		
TPO	The TPO had about 10 documents, 2 of which were ISR documents. The TPO had 1 document that dislodged the novelty of the claims in the application, with 3 documents bringing forth the lack of inventive step and 6 documents that disclosed the lack of novelty and/or inventive step of the claims made in the application. The TPO used 7 articles published in periodicals and 3 patent documents.		
Date of Filing TPO	04.03.2019		
National	No national phase entries.		
Phase as of			
07.10.2022			

TPO No.	3					
Appl. No.	PCT/IB2017/057225: WO2018092089					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018092089					
Applicants	GlaxoSmithKline Intellectual Property Development Limited					
Priority Date	18.11.2016					
Details	This application discloses and claims heterocyclic amides that inhibit RIP1 kinase and methods of making and using the same. It relates to developing a potent, selective, small molecule inhibitor which would block RIP1 -dependent cellular necrosis and thereby provide a therapeutic benefit in diseases or events associated with danger associated molecular patterns (DAMPs), cell death and/or inflammation					
Claims	The application has 32 claims (6 independent claims and 26 dependent claims), of which 15 claims are secondary claims wherein 4 deal with formulation, 9 with uses, 2 with method of treatment and 2 with combination. Of the 4 formulation (pharmaceutical composition) claims, 2 overlap with the combination claims. Both the combination claims are drafted as formulation claims. There are 2 Markush structures and 3 specific compounds in the claims comprising a core of a 5-membered ring, 4,5-dihydro-1H-pyrazole ring which connects through nitrogen N1 to a piperidine ring through a carbonyl group. The application claims compounds for RIP1 kinase mediated diseases, including bacterial and viral infections. Though TB is mentioned in the description, it is not specifically claimed. The compounds are claimed specifically for treatment of other RIP1 mediated diseases such as ulcerative well in the application of the reatment of other RIP1 mediated diseases such as ulcerative well.					
ISR	The ISR has 2 documents, both of which deal with the general state of the art which is not considered to be of particular relevance and therefore does not attack the novelty or inventive step of the molecule.					
ТРО	The TPO has 7 documents, none of which are ISR documents. It has 1 document that attacks the novelty of the claims and 3 additional documents attacking both novelty and inventive step. Additionally, 3 documents have disclosed the lack of novelty and/or inventive step of the claims made in the application. The TPO uses 5 articles published in periodicals and 2 patent documents.					
Date of Filing TPO	The TPO was filed on 18.03.2019.					
National Phase as of	f Office Entry Date National National Status					
07.10.2022	United States of America	16.05.2019	16461410	Published 14.11.2019		
	EPO	18.06.2019	2017811721	Withdrawn 15.03.2022		

TPO No.	4				
Appl. No.	PCT/GB2017/053787:WO2018109504				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018109504				
Applicants	Louise Golding et al.,				
Priority Date	16.12.2016				
Details	The application relates to novel ionophores comprising bicyclic or tricyclic nitrogen containing N-oxide functionalised heterocycles, methods for their preparation and their medical use, in particular as anti-neoplastic and anti-infective agents. The application indicates that these compounds will have enhanced membrane penetration				
Claims	The application has 45 claims (1 dependent and 44 dependent), of which 11 are secondary claims pertaining to formulation (8 claims), uses (6 claims) and 1 for the method of treatment. Of the 8 formulation (composition) claims, 1 is specifically for a composition per se, 6 claims claim use of the composition (apart from the claimed compounds) and 1 claim claims method of treatment using the formulation (apart from the claimed compounds). There are 11 claims for the combinations. Of the 11 combination claims, 3 are specifically for combinations per se. The remaining 8 claims are for formulation, use and method of treatment which claim both the claimed compounds as combinations. The claims contain 10 Markush structures with 490 specific compounds comprising either bicyclic or tricyclic nitrogen containing aromatic core where one or both of the nitrogen atoms are in the form of N-oxide. Of these 10 Markush structures, 5 are unique structures and 5 are corresponding variants of each of these 5 unique structures. Apart from TB, the application claims use for treatment of various types of cancers, bacterial and fungal infections.				
ISR	The ISR had 11 documents, of which 10 documents and 1 additional document (published after the priority date, but before the filing date) directly attack the novelty of the application and 7 of these also cover the general state of the art.				
ТРО	The TPO had 8 documents, 1 of which was an ISR document. Of these, 6 documents have been used to dislodge novelty and 2 for attacking both novelty and inventive step. The TPO used 6 articles published in periodicals and 2 patent documents.				
Date of Filing TPO	The TPO was filed on 16.04.2019.				
National Phase as of 07.10.2022	Office Unites States of America EPO	Entry Date 14.06.2019 16.07.2019	National Number 16469948 2017817848	National StatusPublished26.03.2020Granted29.06.2021	

TPO No.	5
Appl. No.	PCT/IB2017/058326: WO2018116260
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018116260
Applicants	Yuria-Pharm Limited Liability Company
Priority Date	22.12.2016
Details	The application claims isonicotninylhydrazones as anti-tuberculosis agents.
	The primary compound claimed is a slightly modified analogue of isoniazid.
	Clinical trials were conducted for a pharmaceutical formulation containing this
	molecule as the primary compound for activity against MDR-TB.
Claims	The application has 17 claims (1 independent and 16 dependent claims), all of
	which are secondary claims for formulation.
ISR	The ISR had 5 documents, all of which target the inventive step and none for
	dislodging the novelty of the application.
TPO	The TPO had 8 documents, which included 1 ISR document. Of these 8
	documents, 1 was exclusively for attacking novelty, 4 for both novelty and
	inventive step, and 3 only for inventive step. The prior art documents comprised
	7 articles published in periodicals and 1 patent document.
Date of Filing	The TPO was filed on 22.04.2019.
TPO	
National	No national phase entries.
Phase as of	
07.10.2022	

TPO No.	18			
Appl. No.	PCT/SG2018/0500)75: WO2018151	.681	
Link to Appl.	https://patentscope	.wipo.int/search/	en/detail.jsf?docId=W	O2018151681
Applicants	Nanyang Technolo	gical University	and National Universit	ty of Singapore
Priority Date	15.02.2017	<u> </u>		
Details	The application r	elates to pyrimi	idine compounds and	l compositions for
	treating tuberculos	is. These compo	unds have been propos	sed to target the F1
	domain of F-ATP	synthase. Inhibit	ion of ATP synthase i	in the mycobacteria
	leads to shutting of	ff the supply of c	ellular energy, thereby	causing cell death.
	The application cla	aims pyrimidine c	compounds alone and i	n combination with
	bedaquiline	or	6-chloro-2	2-ethyl-N-[[4-[4-[4-
	(trifluoromethoxy)	phenyl]piperidin	-1-yl]phenyl]methyl]ir	nidazo[1,2-
	a]pyridine-3-carbo	xamide (Q203) o	or a combination thereo	of.
Claims	The application ha	s 25 claims (2 inc	dependent and 23 depe	ndent), of which 17
	claims are seconda	ry claims. There a	are 3 formulation claim	ns, 7 claims for uses,
	2 claims for methe	od of treatment,	6 claims for combina	tions and 7 "other"
	claims. Of the 3 fo	rmulation claims	s, 2 claims overlap with $7 + 1 + 1 = 1$	h use claims and all
	3 claims are for co	mbination. Of th	ie / claims for use, 2 (claims overlap with
	cloims Of the 2	mutation claims	tmont claims 1 claim	b with combination
	combination claim	Ω	vinction claims 1 ou	erlans with the use
	claims 1 claim ov	erlans with meth	od of treatment claims	and 1 of the claims
	is for a kit	enups with meth	ou of treatment channs	Of the 7
	"other" claims, 6 a	re process claims	s and 1 claim is for a ki	it.
ISR	The ISR had 11 do	cuments, of whic	h 10 attacked novelty a	and 1 document was
	a general state of the	he art document.	,	
ТРО	The TPO had 6 do	ocuments and 1 o	of these was an ISR do	cument. Of these 6
	documents, 4 dislo	dged novelty and	d an additional 2 docur	ments attacked both
	novelty and invent	ive step. The TPC	O prior art consisted of	4 articles published
	in periodicals and	2 patent documer	nts.	
Date of Filing	The TPO was filed	l on 17.06.2019.		
TPO	0.07			
National Phase	Office	Entry Date	National	National Status
as of		14.00.0010	Number	D 11' 1 1
07.10.2022	United States of	14.08.2019	16489/3	Published
	America			23.07.2020 Cronted
				Oranted 02.08.2021
	India	11.00.2010	201017026557	Dublished
	mula	11.09.2019	201917050557	15 11 2010
	Canada	13.09.2019	3056590	13.11.2019
	Russian	16.09.2019	2019128534	Published
	Federation	10.07.2017	2017120554	16 03 2021
	rederation			Withdrawn
				11 10 2021
	China	14 10 2019	201880025012.6	Published
	China	1	201000022012.0	29.11.2019

TPO No.	20			
Appl. No.	PCT/EP2018/054860): WO2018158280		
Link to	https://patentscope.w	ipo.int/search/en/det	ail.jsf?docId=WO2018	<u>158280</u>
Appl.				
Applicants	Janssen Science Irela	nd Unlimited Co.		
Priority	01.03.2017			
Date				
Details	The application clain (more specifically Q agents.	ns a combination of k 203). It also claims	known anti-TB drugs, i a further combination	.e., PZA + bc1 inhibitor with other antibacterial
Claims	The application has secondary claims. O forms, 5 claims for u are 2 "other claims formulation claims, 2 with method of treat claims" are process of latent TB) and mycol	16 claims (1 indep f these, 2 claims pe use, 2 claims are for ". Of the 16 comb 2 overlap with dosag ment claims and 2 c claims. The diseases	endent and 15 depend rtain to formulation, 2 treatments, all 16 for c bination claims, 2 cla e claims, 5 overlap wit of the claims are process claimed are specificall	dent), all of which are claims are for dosage combinations, and there aims overlap with the h use claims, 2 overlap ss claims. The 2 "other by TB (including MDR,
ISR	The ISR had 2 docur	nents, of which 1 att	acked the novelty and	the other was a general
TDO	state of the art docum	ient.		
	3 documents dislodge and inventive step. documents.	ed novelty of the appl The TPO used 4 a	lication and the other 3 or rticles published in pe	challenged both novelty eriodicals and 2 patent
Date of Filing TPO	The TPO was filed o	n 01.07.2019.		
National	Office	Entry Date	National Number	National Status
Phase as of 07.10.2022	China	30.08.2019	201880015042.9	Published 21.02.2020
	Japan	30.08.2019	2019547409	
	Philippines	02.09.2019	12019502002	
	United States of America	03.09.2019	16490677	Published 31.01.2020
	Brazil	10.09.2019	112019017901	
	Eurasian Patent	24.09.2019	201991997	Published
	Organization			31.01.2020
	Ukraine	30.09.2019	A201910076	Published 10.01.2020
	EPO	01.10.2019	2018707713	
	Republic of Korea		1020197025379	Published 25.10.2019

TPO No.	26			
Appl. No.	PCT/US2018/022531	: WO2018175185		
Link to	https://patentscope.w	ipo.int/search/en/deta	il.jsf?docId=WO2018	<u>175185</u>
Appl.				
Applicants	Merck Sharp & Dohr	ne Corp.		
Priority	20.03.2017			
Date				
Details	The application rel mycobacterial cells <i>Mycobacterium tuber</i> effective amount of a or a composition com	ates to oxazolidino as well as a metho <i>culosis</i> . The application n oxazolidinone and/opprising such compound	ne compounds for d of treating mycob on also claims adminis or a pharmaceutically nd and/or salt.	inhibiting growth of pacterial infections by stering a therapeutically acceptable salt thereof,
Claims	The application has 2 secondary claims. The method of treatment a is for a composition p claim method of treat treatment claims claims claims composition. The method combination claims of are no claims for com 23 specific compound and resistant tubercu infections.	0 claims (2 independence are 8 claims for combiner are 8 claims for combiner se and 7 claims over the composition both method of the composition both method of treatment class overlap with or are dramation per se. The ds. Apart from the spelosis, the application	ent and 18 dependent) formulation, 1 claim ination. Of the 8 form erlap with method of tr und as well as compo- treatment with the ims overlap with cor- fited with method of tr application claims 1 1 ecific claim for the tre- also claims treatmen	b, of which 9 claims are in for use, 7 claims for nulation claims, 1 claim reatment claims as they osition. All 7 method of compound as well as inbination claims. Both reatment claims. There Markush structure with eatment of tuberculosis int for various bacterial
ISR	The ISR had 1 docum	nent which attacks the	novelty of the applic	ation.
ТРО	The TPO had 5 prior	art documents which	were different from	the ISR document. All
	these documents disl	odged both novelty a	and inventive step. T	he TPO had 3 articles
	published in periodic	als and 2 patent docur	nents.	
Date of	The TPO was filed or	n 22.07.2019.		
Filing TPO		ſ	1	r
National	Office	Entry Date	National Number	National Status
Phase as of	United States of	04.09.2019	16490958	Published
07.10.2022	America			09.01.2020
				Granted 25.08.2020
	EPO	21.10.2019	2018772037	

TPO No.	27			
Appl. No.	PCT/CN2018/0807	77: WO201817730	02	
Link to Appl.	https://patentscope.	.wipo.int/search/en/	detail.jsf?docId=WC	<u>D2018177302</u>
Applicants	Institute of Materia	Medica, Chinese A	Academy of Medical	Sciences
Priority Date	28.03.2017			
Details	The application clai	ims nitrogen contain	ning heterocycle sub	stituted benzoxazine
	oxazolidinone com	pounds, preparation	method of these cor	npounds and the use
	in the preparation	of a drug for treati	ng Mycobacterium	tuberculosis. It also
	pharmaceutical co	mosition compris	any acceptable sal	disclosed in the
	application	inposition compris	sing the compound	i uiscioseu ili uie
Claims	The application has	16 claims (1 indepe	endent and 15 dependent	dent) of which there
Clums	are 3 secondary cla	aims. 2 claims for f	Formulation. 1 claim	for use and 1 other
	claim. Of the 2 form	nulation claims, 1 cl	aim is for composition	on per se and 1 claim
	overlaps with the	use claim which	n claims use of th	ne compounds and
	compositions there	of. The 1 other claim	m is a process claim	. The claims contain
	9 Markush structure	es with 36 specific o	compounds. Of the 9	Markush structures,
	1 is the primary Ma	arkush structure and	1 8 are derivative Ma	rkush structures. Of
	the 8 derivative M	larkush structures,	2 are isomers of th	e primary Markush
	structure, 5 are de	r Claim 12 sets out	t a relatively limited	number of possible
	substituents for son	ne of the Markush s	a relatively minute	number of possible
	Substituents for son		di detales.	
ISR	The ISR had 2 doc	uments, both of wh	ich deal with the ge	neral state of the art
	which is not consi-	dered to be of part	icular relevance and	l therefore does not
	attack the novelty of	or inventive step of	the molecule.	
TPO	The TPO had 5 doc	uments, none from t	the ISR. Of these doc	cuments, 1 document
	attacked inventive	step and the rest at	tacked both novelty	and inventive step.
	The TPO contained	l 2 articles publishe	d in periodicals and	3 patents.
Date of Filing	The TPO was filed	on 29.07.2019.		
TPO	0.00			
National Disease of	Office	Entry Date	National	National Status
Phase as of		27.00.2010	Number	D 11' 1 1
07.10.2022	United States of	27.09.2019	16498876	Published
	America			24.00.2021 Granted
				17 05 2022
	Russian	28 10 2019	2019134197	Granted
	Federation			15.03.2021
	India		201917043636	Published
1				10.01.0000

	1				
TPO No.	34				
Appl. No.	PCT/EP2018/06	51615: WO2018	206466		
Link to Appl.	https://patentsco	ppe.wipo.int/sea	<u>rch/en/detail.jsf?doc</u>	Id=WO2018206466	
Applicants	GlaxoSmithKlin	ne Intellectual P	roperty Developmen	t Limited	
Priority Date	08.05.2017				
Details	The application claims sanfetrinem, a pharmaceutically acceptable salt or ester prodrug thereof for use in the treatment of tuberculosis, either alone or in combination with beta-lactamase inhibitors and other agents. This is an application for a new use of a known compound, and its known prodrug (sanfetrinem cilexetil). Sanfetrinem is a beta-lactam containing compound which inhibits bacterial cell wall synthesis.				
Claims	The application are secondary c claims for use, 9 combination. A drafted as com claims a new us claims are for t cilexetil and 2 c 3 are drafted as compounds for infection, myco also specifically	has 27 claims (laims. Of these, claims for the ll the claims (c pounds/compose e for a known c he ester prodrug laims are for the s method of treat use in the treatme bacterial infection for use in treatments	9 independent and 1 1 claim is for formu- method of treatment except the 9 method ition/combinations for ompound. Of the 6 c g of sanfetrinem, 2 e sodium salt of sanf atment claims. The ment of a disease resu- on, mycobacterium ment of tuberculosis	8 dependent), all of alation, 6 for salt form and 7 claims pertain d of treatment claims for use as the appli- claims for specific fo- claims are for sanfer etrinem. Of these 6 c claims generally clai- alting from a mycoba tuberculosis infection disease.	which ms, 18 ning to as) are cation rms, 2 trinem laims, im the cterial on and
ISR	The ISR had 8 d of the art docum	locuments, of wl	hich 1 attacked nove	lty and 7 were genera	al state
ТРО	The TPO had 8 documents, 1 d inventive step o in periodicals.	8 documents, 1 ocument attacke f the application	of which was an l ed inventive step an . All these 8 docume	SR document. Of the document of the document. Of the document of the document. Of the document of the document. Of the document of the documen	nese 8 ty and lished
Date of Filing TPO	The TPO was fi	led on 09.09.20	19.		
National					
Phase as of 07.10.2022	Office	Entry Date	National Number	National Status	
	Canada	18.10.2019	3060396		
	Australia	21.10.2019	2018265192	Published 07.11.2019	-
	China	07.11.2019	201880030277.5	Published 06.03.2020	
	Japan	07.11.2019	2019561315		
	Unites States of America	08.11.2019	16611908	Published 17.09.2020	
				Granted 22.02.2022	
	Brazil	19.11.2019	112019023322	Refused 18.01.2022	
	EPO	09.12.2019	2018721053	Granted 27.07.2022	
	Russian Federation	09.12.2019	2019139864	Published 09.06.2021	

			Granted 12.10.2021	
Serbia	01.08.2022	P-2022/0731	Granted 31.08.2022	
India		201917045452	Published 13.12.2019	
Republic of Korea		1020197032729	Published 10.01.2020	

IFO NO.	47			
Appl. No.	PCT/EP2018/0721	43: WO20190347	700	
Link to Appl.	https://patentscope	.wipo.int/search/e	en/detail.jsf?docId=WO	<u>2019034700</u>
Applicants	GlaxoSmithKline AG	Intellectual Prope	erty Development Limi	ted and BioVersys
Priority Date	16.08.2017			
Details	The application cla of mycobacterial in such as tuberculos specifically, it cla spiroisoxazoline co TB.	aims spiroisoxazo nfections or treatr sis, primarily to p aims a compound ompound for use	line compounds and the nent of diseases caused otentiate the action of d very similar to SMA as ethionamide booster	eir use in treatment by mycobacterium ethionamide. More ARt-420, a known in the treatment of
Claims	The application had claims are second claims for uses, 2 c Of the 5 claims pharmaceutically treatment of myc mycobacterium. It infection and tuber	as 22 claims (1 ind ary claims. The a claims for method for use, 4 are d acceptable salt for obacterial infecti specifically claim reculosis.	dependent and 21 deper application has 1 claim of treatment, and 5 clair rafted as claiming the or use. The application on or disease caused as treatment of <i>Mycobac</i>	ndent), of which 13 for formulation, 5 ns for combination. compound or its n generally claims by infection with <i>terium tuberculosis</i>
ISR	The ISR had 6 doc is not considered to novelty or inventiv	cuments, and all d to be of particular the step of the mole	ealt with the general star relevance and therefore ecule.	ate of the art which does not attack the
ТРО	The TPO had 5 d	locuments, of wh	ich 1 was an ISR doc	ument. Of these 5
	documents, 2 atta inventive step. The documents.	acked inventive TPO used 3 docu	step and 3 dislodged ments published in perio	both novelty and odicals and 2 patent
Date of Filing	The TPO was filed	l on 16.12.2019.		
Date of Filing TPO	The TPO was filed	l on 16.12.2019.	National Number	National
Date of Filing TPO National Phase	The TPO was filed Office	l on 16.12.2019. Entry Date	National Number	National Status
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia	I on 16.12.2019. Entry Date 30.01.2020	National Number 2018317804	National Status Published 20.02.2020
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore	Entry Date 30.01.2020 04.02.2020	National Number 2018317804 11202000988R	National Status Published 20.02.2020
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel	I on 16.12.2019. Entry Date 30.01.2020 04.02.2020 09.02.2020	National Number 2018317804 11202000988R 272562	National Status Published 20.02.2020
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand	Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020	National Number 2018317804 11202000988R 272562 761518	National Status Published 20.02.2020 Published 28.02.2020
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada	Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838	National Status Published 20.02.2020 Published 28.02.2020
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada Japan	Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020 14.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838 2020530727	National Status Published 20.02.2020 Published 28.02.2020
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada Japan Mexico	Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020 14.02.2020 14.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838 2020530727 MX/a/2020/001808	National Status Published 20.02.2020 Published 28.02.2020 Published 24.11.2020 Granted 19.07.2022
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada Japan Mexico Philippines	I on 16.12.2019. Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838 2020530727 MX/a/2020/001808 12020500339	National Status Published 20.02.2020 Published 28.02.2020 Published 24.11.2020 Granted 19.07.2022
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada Japan Mexico Philippines Thailand	I on 16.12.2019. Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838 2020530727 MX/a/2020/001808 12020500339 2001000850	National Status Published 20.02.2020 Published 28.02.2020 Published 24.11.2020 Granted 19.07.2022
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada Japan Mexico Philippines Thailand United States of America	I on 16.12.2019. Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838 2020530727 MX/a/2020/001808 12020500339 2001000850 16639192	National StatusPublished 20.02.2020Published 28.02.2020Published 28.02.2020Published 24.11.2020 Granted 19.07.2022Published 04.02.2021 Granted 22.02.2022
Date of Filing TPO National Phase as of 07.10.2022	The TPO was filed Office Australia Singapore Israel New Zealand Canada Japan Mexico Philippines Thailand United States of America China	I on 16.12.2019. Entry Date 30.01.2020 04.02.2020 09.02.2020 10.02.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020 14.02.2020	National Number 2018317804 11202000988R 272562 761518 3072838 2020530727 MX/a/2020/001808 12020500339 2001000850 16639192 201880053326.7	National Status Published 20.02.2020 Published 28.02.2020 Published 24.11.2020 Granted 19.07.2022 Published 22.02.2021 Granted 19.07.2022 Published 04.02.2021 Granted 22.02.2022 Published 01.04.2020

Republic of Korea	11.03.2020	1020207007144	Published 21.04.2020
EPO	16.03.2020	2019752171	Granted 29.09.2021
Russian Federation	16.03.2020	2020109677	Published 16.09.2021
Serbia	15.12.2021	P-2021/1543	Granted 31.01.2022

TPO No.	48				
Appl. No.	PCT/EP2018/0722	05: WO201903472	29		
Link to Appl.	https://patentscope	.wipo.int/search/en	/detail.jsf?docId=WC	<u>)2019034729</u>	
Applicants	GlaxoSmithKline I	Intellectual Property	y Development Limit	ed	
Priority Date	17.08.2017				
Details	The application app	pears to specifically	/ claim a preclinical c	ompound, GSK839,	
	a tetrazole benzene	sulfonamide, which	ch is identified by the	Working Group for	
	New TB Drugs as a	a pipeline compour	ıd.		
Claims	The application has 26 claims (1 independent and 25 dependent), of which				
	claims are secondar	ry claims. There is	1 claim for formulation	on, 7 claims for uses,	
	2 claims for treatm	ent, and 5 claims for	or combination. Of th	e 7 claims for use, 6	
	are drafted as claim	ing the compound	or its pharmaceuticall	y acceptable salt for	
	use. The application	on generally claims	s treatment of mycob	acterial infection or	
	disease caused by	y infection with	mycobacterium. It	specifically claims	
100	Mycobacterium tub	perculosis infection	and tuberculosis.		
ISR	The ISR had 6 doci	uments and all deal	t with the general stat	te of the art which is	
	not considered to t	be of particular releases	evance and therefore	does not attack the	
ΤΡΟ	The TPO had 4 d	e step of the molec	$\frac{1}{1}$ b 1 was an ISP doe	nument Of these ?	
110	documents attacke	d inventive step ar	all I was all ISK uound the other 2 docum	ents dislodged both	
	novelty and inven	tive step The TP	10 made use of 3 a	rticles published in	
	periodicals and 1 p	atent document	O made use of 5 a	fucies published in	
Date of Filing	The TPO was filed	on 17 12 2019			
	The Tro was mea	0117.12.2017.			
IPU					
National	Office	Entry Date	National	National Status	
National Phase as of	Office	Entry Date	National Number	National Status	
National Phase as of 07.10.2022	Office Australia	Entry Date 31.01.2020	National Number 2018317812	National Status Published	
National Phase as of 07.10.2022	Office Australia	Entry Date 31.01.2020	National Number 2018317812	National StatusPublished20.02.2020	
National Phase as of 07.10.2022	Office Australia Canada	Entry Date 31.01.2020 12.02.2020	National Number 2018317812 3072854	National StatusPublished20.02.2020	
National Phase as of 07.10.2022	Office Australia Canada Japan	Entry Date 31.01.2020 12.02.2020 14.02.2020	National Number 2018317812 3072854 2020508427	National Status Published 20.02.2020	
National Phase as of 07.10.2022	Office Australia Canada Japan United States of	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020	National Number 2018317812 3072854 2020508427 16639163	National StatusPublished20.02.2020Published	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of America	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020	National Number 2018317812 3072854 2020508427 16639163	National Status Published 20.02.2020 Published 23.07.2020	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of America	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020	National Number 2018317812 3072854 2020508427 16639163	National StatusPublished20.02.2020Published23.07.2020Granted	
National Phase as of 07.10.2022	Office Australia Canada Japan United States of America	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020	National Number 2018317812 3072854 2020508427 16639163	National StatusPublished20.02.2020Published23.07.2020Granted27.07.2021	
National Phase as of 07.10.2022	Office Australia Canada Japan United States of America China	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 17.02.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X	National StatusPublished20.02.2020Published23.07.2020Granted27.07.2021Published	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChina	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 17.02.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X	National Status Published 20.02.2020 Published 23.07.2020 Granted 27.07.2021 Published 10.04.2020	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazil	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 17.02.2020 27.02.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247	National StatusPublished20.02.2020Published23.07.2020Granted27.07.2021Published10.04.2020	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 27.02.2020 11.03.20202	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186	National StatusPublished20.02.2020Published23.07.2020Granted27.07.2021Published10.04.2020Published	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazil Republic of Korea	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 17.02.2020 27.02.2020 11.03.20202	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186	National Status Published 20.02.2020 Published 23.07.2020 Granted 27.07.2021 Published 10.04.2020 Published 22.04.2020	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of KoreaEPO	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 27.02.2020 11.03.20202 17.03.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186 2018755815	National StatusPublished 20.02.2020Published 23.07.2020Granted 27.07.2021Published 10.04.2020Published 22.04.2020Granted	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of KoreaEPO	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 17.02.2020 27.02.2020 11.03.20202 17.03.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186 2018755815	National Status Published 20.02.2020 Published 23.07.2020 Granted 27.07.2021 Published 10.04.2020 Published 23.06.2021	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of KoreaEPORussian	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 27.02.2020 17.03.2020 17.03.2020 17.03.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186 2018755815 2020110818	National StatusPublished20.02.2020Published23.07.2020Granted27.07.2021Published10.04.2020Published22.04.2020Granted23.06.2021Published	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of KoreaEPORussian Federation	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 17.02.2020 27.02.2020 11.03.20202 17.03.2020	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186 2018755815 2020110818	National Status Published 20.02.2020 Published 23.07.2020 Granted 27.07.2021 Published 10.04.2020 Published 23.06.2021 Published 17.09.2021	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of KoreaEPORussian FederationFederationSerbia	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 27.02.2020 17.02.2020 11.03.20202 17.03.2020 26.08.2021	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186 2018755815 2020110818 P-2021/1076	National Status Published 20.02.2020 Published 23.07.2020 Granted 27.07.2021 Published 10.04.2020 Published 23.06.2021 Published 17.09.2021 Granted 17.09.2021 Granted	
National Phase as of 07.10.2022	OfficeAustraliaCanadaJapanUnited States of AmericaChinaBrazilRepublic of KoreaEPORussian FederationFederationSerbia	Entry Date 31.01.2020 12.02.2020 14.02.2020 14.02.2020 14.02.2020 27.02.2020 17.03.2020 17.03.2020 26.08.2021	National Number 2018317812 3072854 2020508427 16639163 201880053320.X 112020003247 1020207007186 2018755815 2020110818 P-2021/1076	National Status Published 20.02.2020 Published 23.07.2020 Granted 27.07.2021 Published 10.04.2020 Published 23.06.2021 Published 17.09.2021 Granted 30.09.2021	
Appl. No. PCT/EP2018/077222: W02019068910 Link to Appl. https://patentscope.wipo.int/search/en/detail.js?/docId=WO2019068910 Applicants Quretech Bio Ab and Washington University in St. Louis Priority Date 05.10.2017 Details The application relates to ring-fused thiazolino 2-pyridone compounds and, in particular, combinations of such ring-fused thiazolino 2-pyridones with other known anti-TB agents for treating various types of tuberculosis infections. Claims The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims for use, 4 claims for method of treatment, 45 claims for combination and 3 other claims. There are 2 lindependent claims, 1 for combination and 3 other claims wherein parent/derived Markush structures of Formula 1 (imidazopyridines; acting on cytochrome b subunit of the bcl complex) and Formula II (ring-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti-TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are ring-fused thiazolino 2-pyridone compounds. 11 Markush structures, 3 are for imidazopyridines, of which 1 is a primary Markush structures, 3 are for imidazopyridines, of which 1 is a primary Markush structures. Of the 1 Markush structures, 0 which 1 is a primary Markush structures, 0 which 1 is a primary Markush structures, 0 which 1 is a primary Markush structures of which 1 is a primary Markush structures.<	TPO No.	55			
--	---------------	--			
Link to Appl. https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019068910 Applicants Quretech Bio Ab and Washington University in St. Louis Priority Date 05.10.2017 Details The application relates to ring-fused thiazolino 2-pyridones with other known anti-TB agents for treating various types of tuberculosis infections. Claims The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims. Of these, there are 2 claims for formulation, 5 claims for salt forms, 9 claims for use, 4 claims for method of treatment, 45 claims for combination and 1 for specific compounds. All claims except 1 (claim 46) are drafted as combination claims wherein parent/derived Markush structures of Formula 1 (imidazopyridines; acting on cytochrome b subunit of the bc1 complex) and Formula II (ring-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti-TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are claimed as part of the combination claims and not separately as Markush structures of the 11 Markush structures, 3 which 1 is a primary Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structures. Of the 11 Markush structures, of	Appl. No.	PCT/EP2018/077222: WO2019068910			
Applicants Quretech Bio Ab and Washington University in St. Louis Priority Date 05.10.2017 Details The application relates to ring-fused thiazolino 2-pyridone compounds and, in particular, combinations of such ring-fused thiazolino 2-pyridones with other known anti-TB agents for treating various types of tuberculosis infections. Claims The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims. Of these, there are 2 claims for formulation, 5 claims for salt forms, 9 claims for use, 4 claims for method of treatment, 45 claims for combination and 1 for specific compounds. All claim sexcept 1 (claim 46) are drafted as combination claims wherein parent/derived Markush structures of Formula 1 (imidazopyridines; acting on cytochrome b subunit of the bc1 complex) and Formula II (ing-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti-TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are claimed as part of the combination claims and not separately as Markush structures. Of the 11 Markush structures, 5 Warkush structures are ing-fused thiazolino 2-pyridone structures, 5 with 1 is a primary Markush structure (Formula II) and 7 are derivative Markush structures. Of the 7 derivative Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structure (Formula II) and 7 are derivative Markush structures. Of the 7 derivative Markush structures, 2 are directly derived from Formula II (Formula II and IIb), 2 (Formula III and IIb), and the other 3 (Formula II and IB) and Fo	Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019068910			
Priority Date 05.10.2017 Details The application relates to ring-fused thiazolino 2-pyridone compounds and, in particular, combinations of such ring-fused thiazolino 2-pyridones with other known anti-TB agents for treating various types of tuberculosis infections. Claims The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims. Of these, there are 2 claims for formulation, 5 claims for salt forms, 9 claims for use, 4 claims for method of treatment, 45 claims in combination and 1 for specific compounds. All claims except 1 (claim 46) are drafted as combination claims wherein parent/derived Markush structures of Formula 1 (inidazopyridines; acting on cytochrome b subunit of the bc1 complex) and Formula II (ring-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti-TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are se. Of the 11 Markush structures, 3 are for imidazopyridines, of which 1 is a primary Markush structures, of the 11 Markush structures, of which 1 is a primary Markush structures, of the 11 Markush structures, of which 1 is a primary Markush structure. 7 are derivative Markush structures. Of the 7 derivative Markush structures, 2 are directly derived from Formula II (Formula II and 11), 2 (Formula II) and 7 are derivative Markush structures. Of the 7 derivative Markush structures, 2 are directly derived from Formula II (Formula IIa 11 and 11), 2 (Formula III) and 1 and the other 3 (Formula IIA 11 and Formula IVA) only additional derivative structures (Formula IIA 11 and Formula IVA) or	Applicants	Quretech Bio Ab and Washington University in St. Louis			
Details The application relates to ring-fused thiazolino 2-pyridone compounds and, in particular, combinations of such ring-fused thiazolino 2-pyridones with other known anti-TB agents for treating various types of tuberculosis infections. Claims The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims. Of these, there are 2 claims for formulation, 5 claims for salt forms, 9 claims for use, 4 claims for method of treatment, 45 claims, for combination and 3 other claims. There are 2 independent claims, 1 for combination and 1 for specific compounds. All claims except 1 (claim 46) are drafted as combination claims wherein parent/derived Markush structures of Formula 1 (imidazopyridines; acting on cytochrome b subunit of the bcl complex) and Fornula II (ring-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti-TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are claimed as part of the 11 Markush structures, 3 are for imidazopyridines, of which 1 is a primary Markush structure, 60 which 1 is a primary Markush structure, of which 1 is a primary Markush structure, 60 which 1 is a primary Markush structures, of which 1 is a primary Markush structure, 60 romula II (Formula II) and 7 are derivative Markush structures (Formula II) and 7 are derivative Markush structures. (Formula II and IIb), a (Formula IIa and IIb) specifically claim various nicotinic hydrazide salt forms of Formula II and IIb) and the other 3 (Formula II in Thermula IVa) only in terms of their stereochemistry. Thirty-four specific ring-fused thiazolino 2-pyridone (Formula II) compounds are claimed in the independent claims	Priority Date	05.10.2017			
Claims The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims. Of these, there are 2 claims for formulation, 5 claims for salt forms, 9 claims for use, 4 claims for method of treatment, 45 claims for combination and 3 other claims. There are 2 independent claims, 1 for combination and 1 for specific compounds. All claims except 1 (claim 46) are drafted as combination claims wherein parent/derived Markush structures of Formula I (imidazopyridines; acting on cytochrome b subunit of the bc1 complex) and Formula II (ring-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti-TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are claimed as part of the combination claims and not separately as Markush structures per se. Of the 11 Markush structures, 3 are for imidazopyridines, of which 1 is a primary Markush structure. (Formula I) and 2 are derivative Markush structures. Of the 11 Markush structures, of which 1 is a primary Markush structure (Formula II) and 7 are derivative Markush structures, 2 are directly derived from Formula II (Formula IIa and IIb), and the other 3 (Formula IIA and IIb), 2 (Formula III) and 7 are derivative structures (Formula II V, IVa, IVb) specifically claim Markush structures of their stereochemistry. Thirty-four specific ring-fused thiazolino 2-pyridone (Formula II) compounds are claimed in the independent claim. In a combination claim, 87 specific ring-fused thiazolino 2-pyridone (Formula II) and 7 are derivative Markush structures (Formula II) and 7 are derivative Markush structures (Formula II) and 7 are derivative Markush structures (Formula II) and 7 are derivative from Formula II (Formula IIA and IIb), and the other 3 (Formula IIA and IIb), 2 (For	Details	The application relates to ring-fused thiazolino 2-pyridone compounds and, in particular, combinations of such ring-fused thiazolino 2-pyridones with other known anti-TB agents for treating various types of tuberculosis infections.			
wherein the compounds differ in the substitution of various anionic groups (A-) on the parent Markush structure. Of the 9 use claims, 4 are drafted as use claims per se and 5 are drafted as claims to combination for use. Of the 3 "other" claims, 1 claim is a combination wherein the claimed drug is profiled in a test and 2 claims are for the claimed combination in a kit (apart from	Claims	known anti-TB agents for treating various types of tuberculosis infections. The application has 46 claims (2 independent and 44 dependent), of which there are 45 secondary claims. Of these, there are 2 claims for formulation, 5 claims for salt forms, 9 claims for use, 4 claims for method of treatment, 45 claims for combination and 1 for specific compounds. All claims except 1 (claim 46) are drafted as combination claims wherein parent/derived Markush structures of Formula I (imidazopyridines; acting on cytochrome b subunit of the bc1 complex) and Formula II (ring-fused thiazolino 2-pyridone compounds) are claimed in combination with each other and also with further other known anti- TB agents for the treatment of infections caused by mycobacteria. However, 1 independent claim is directed to 34 specific ring-fused thiazolino 2-pyridone (Formula II) compounds. Therefore, this application is being treated as a basic molecule application. The Markush structures are claimed as part of the combination claims and not separately as Markush structures per se. Of the 11 Markush structures, 3 are for imidazopyridines, of which 1 is a primary Markush structure, 6 which 1 is a primary Markush structures or the 11 Markush structures, 8 Markush structure (Formula II) and 2 are derivative Markush structures are ring-fused thiazolino 2- pyridone structures, of which 1 is a primary Markush structure. (Formula II) and 7 are derivative Markush structures. Of the 7 derivative Markush structures, 2 are directly derived from Formula II (Formula IIa and IIb), 2 (Formula III and IIIb) specifically claim various nicotinic hydrazide salt forms of Formula IIa and IIb, and the other 3 (Formula IIV, IVa, IVb) specifically claim Markush structures derived from Formula II V, IVa, IVb) specifically claim Markush structures derived from Formula II N, IVa, IVb) specifically claim Markush structures derived from Formula IIV, IVa, IVb) specifically claim Structures derived from their parent Markush structures (Formula II and Formula IVa) only in t			

ISR	The ISR had 3 documents, of which 1 document and an additional document (published after the priority date, but before the filing date) attacked the novelty			additional document
	of the application and 1 document was a general state of the art document.			
TPO	The TPO had 3 do	ocuments, of which	ch 1 was an ISR doc	ument. All the TPO
	documents attacked	d both novelty and	d inventive step. The	TPO made use of 1
	document publishe	d in a periodical a	nd 2 patent document	ts.
Date of Filing	The TPO was filed	on 05.02.2020.		
TPO				
National	Office	Entry Date	National	National Status
Phase as of			Number	
07.10.2022	Japan	31.03.2020	2020518682	
	United States of	011.04.2020	16652829	Published
	America			08.10.2020
				Granted
				28.09.2021
	China	17.04.2020	201880067818.1	Published
				05.06.2020
	Philippines	05.05.2020	12020550567	
	EPO	06.05.2020	2018785905	
	Russian	06.05.2020	2020113346	Published
	Federation			09.11.2021
	Republic of		1020207010849	Published
	Korea			09.06.2020

TPO No.	64			
Appl. No.	PCT/IB2019/05193	34: WO2019175737	7	
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019175737			
Applicants	University of Notre	e Dame Du Lac		
Priority Date	12.03.2018			
Details	The application of wherein carbon hy deuterium bonds, using such compo growth of <i>M. tube</i> imidazopyridine an treatment of tubero infection, without r	laims imidazopyrid /drogen bonds hav syntheses thereof, punds and composi <i>erculosis</i> and/or <i>M</i> . id pyrazolopyridine culosis mycobacter nentioning the spec	dine and pyrazolog re been replaced w compositions there tions for killing a <i>avium</i> . In this ap compounds are bro rial and non-tuberc ific diseases.	pyridine compounds with isotopic carbon- eof, and methods of and/or inhibiting the plication, deuterated badly claimed for the ulosis mycobacterial
Claims	The application has are secondary claim for method of treath basic molecule as a imidazopyridine co skilled in the art. T structures. Of the 4 [wherein 1 Markush and the other Markush and the other Markush have a pyrazolopyr substituents deuterat too deuterated]. Th certain known com and substituents. Th and TB-47. Howev compounds, and th specific compound composition claim caused by mycoba	s 11 claims (2 indens. The application lement. The application lement. The application lement. The application all the compounds and the prime secondary claim. Markush structures have structure has the clash structure has	pendent and 9 dependent and 9 dependent and 9 dependent of the second claimed are deuteration is not considered claimed are deuteration is of the application is of the application is, 2 structures have is core and substituent to a deuter in 1 Markush struct the other Markush struct is 130 specific deuter is replaced with D ated forms of known is are deuterated eration itself is known of the 4 formulation of the claimed of	endent), all of which nulation and 3 claims as an application for ated forms of known is known to a person relate to 4 Markush imidazopyridine core s deuterated (A deut) ated] and 2 structures ure has the core and ructure has the linker erated compounds of 0 at various positions n drugs such as Q203 analogues of known own, the number of ation claims, 1 is a reatment of infection imed compounds or
ISR	The ISR had 2 docu the application.	uments. Both these	documents attacked	the inventive step of
TPO	The TPO had 9 de application. The T documents and 1 be	PO used 3 docum ook reference.	hich attacked the i ents published in	nventive step of the periodicals, 5 patent
Date of Filing TPO	The TPO was filed	on 30.03.2020.		
National Phase as of	Office	Entry Date	National Number	National Status
07.10.2022	United States of America	11.09.2020	16980230	Published 14.01.2021

PART D: Case Summaries: Applications claiming HIV, HCV and TB treatments

TPO No.	6				
Appl. No.	PCT/IB2017/05801	5: WO/2018/1161	08		
Link to Appl.	https://patentscope.	wipo.int/search/en	/detail.jsf?docId=W	/ <u>O2018116108</u>	
Applicants	GlaxoSmithKline I	ntellectual Property	y Development Lin	nited	
Priority Date	20.12.2016				
Details	The application d derived from a scat salts thereof, their methods for their u	fold comprised of pharmaceutical cose in the prevention	doleamine dioxyge a pyridine core and pmpositions, their and and/or treatment of	enase) inhibitor comp pharmaceutically accommethods of preparation of diseases.	pounds eptable on, and
Claims	The application has 16 claims (2 independent and 14 dependent claims), of which 9 are secondary claims wherein 2 claims are for formulation, 2 are for use and 6 for method of treatment. Of the 2 formulation claims, 1 overlaps with a method of treatment claim as the composition is claimed for treatment. The application claims a single Markush structure with the core being pyridine ring is substituted at positions 2 and 3 with an amine group, wherein the amine itself is further substituted and also includes an acid group substitution at position 5. A single compound has also been claimed specifically; having this pyridine core wherein the amine at position 2 is substituted with an alkyl chain of 3 carbon atoms and a tetrahydropyran ring and the amine at position 3 is substituted with another pyridine ring; and an acidic functional group substitution at position 5. The application claims compounds/pharmaceutical composition containing these compounds for treating chronic viral infections such as HIV and HCV and				
ISR	The ISR has 2 doc inventive step (Y). present application inventive step (Y).	but he interest of the interes	1 was listed for no iment was publishe ernational filing dat	ovelty (X) and also list d after the priority date (P) and was listed o	ted for e of the nly for
TPO	The TPO was file documents, only 1 patent applications novelty and inventi the documents use application (P doc documents, 1 docu was used for only i	d on 23.04.2019 a was uploaded to th and 1 was a period ive step, and 2 wer ed had a publicati cuments) but befor ment was used for nventive step.	nd comprised 6 pr be WIPO website. F lical article. Four d e used only for inv on date after the re the internationa both novelty and in	Five of the 6 documents. Of Five of the 6 document ocuments were used for rentive step. In the TPP priority date of the p l filing date. Of the oventive step and 1 doc	f the 6 ts were or both O, 2 of present two P cument
Date of Filing of TPO	The TPO was filed	on 23.04.2019.			
National Phase as of	Office	Entry Date	National Number	National Status	
07.10.2022	United States of America	25.05.2019	16464795	Published 24.10.2019 Granted 29.09.2020	
	Japan	18.06.2019	2019532923		
	EPO	22.07.2019	2017825965	Withdrawn 02.03.2021	

TPO No.	7				
Appl. No.	PCT/IB2017/05801	4: WO/2018/11610)7		
Link to Appl.	https://patentscope.	wipo.int/search/en/o	detail.jsfdocId=WC	<u>2018116107</u>	
Applicants	GlaxoSmithKline I	ntellectual Property	Development Limit	ited	
Priority Date	20.12.2016				
Details	The application d	iscloses IDO (ind	oleamine dioxyger	nase) inhibitor comp	pounds
	derived from a scaf	fold comprised of a	pyridine core and	pharmaceutically acce	eptable
	salts thereof, their	pharmaceutical con	mpositions, their n	nethods of preparatio	on, and
~	methods for their u	se in the prevention	and/or treatment of	f diseases.	
Claims	The application has	19 claims (2 indepe	endent and 17 deper	ident claims), of whic	h 9 are
	secondary claims w	/herein 2 claims are	for formulation, 2	are for use and 6 for n	nethod
	of treatment. Of the	is alaimed for treat	ns, I overlaps with	a method of treatment	a claim
	as the composition	is claimed for treat	ring is substituted	of claims a single M	arkusii
	amine group when	ein the amine itself	is further substitute	at positions 2 and 3 v	an acid
	group substitution	at position 5 (The	Markush structure	es claimed in WO'1	07 and
	WO'108 are identic	cal.) A single compo	ound has also been	claimed specifically:	having
	this pyridine core v	vherein the amine at	position 2 is subst	ituted with an alkyl cl	hain of
	3 carbon atoms and	d a tetrahydropyran	ring and the amine	e at position 3 is subs	tituted
	with an thiadiazole	ring (the only differe	ence in the compour	nds claimed in both W	'O'107
	and WO'108 is the	presence of a differe	ent heteroaryl ring a	t this position); and an	acidic
	functional group	substitution at	position 5.	The application	claims
	compounds/pharma	aceutical composition	on containing the	se compounds for the	reating
	chronic viral infect	tons such as HIV ar	nd HCV and bacter	ial infections such as	IB by
ICD	Even though the	<u>Vol IDU.</u> Markush sooffolds	alaimed in both	WO'107 and WO'10	08 are
ISK	Even mough the Markush scallolds claimed in both WO'10/ and WO'108 are identical there is no overlap in the ISR documents across both the applications. The			is The	
	ISR for the present	application has 4 d	ocuments. of which	h 2 were published af	ter the
	priority date (P d	ocuments) but befo	ore the internation	al filing date. Of th	hese 2
	documents, 1 was li	isted for both novelt	y and inventive step	$\mathbf{O}(\mathbf{X})$ and the other doc	cument
	was listed to descri	ibe only the general	state of the art an	d is not considered to	be of
	particular relevance	e (A). Of the remain	ing 2 documents, 1	was an X document a	and the
	other an A docume	nt.			
ТРО	The TPO was file	d on 23.04.2019 an	d comprised 6 pri	or art documents. Of	f the 6
	documents, only 1	was uploaded to the	WIPO website. Of	the 6 documents used	1 in the
	1PO, 5 were patent	applications and 1 v	was a periodical arti	cle. Also, 5 document	Is were
	TPO 2 of the doc	uments used had a	publication date a	fter the priority date	of the
	present application	(P documents) but	before the internat	ional filing date Both	the P
	documents were use	ed to assail novelty a	and inventive step.	The prior art documen	ts used
	across WO'107 and	d WO'108 were ider	ntical.	F	
Date of Filing	The TPO was filed	on 23.04.2019.			
of TPO					
National Phase	Office	Entry Date	National	National Status	
as of			Number		
07.10.2022	United States of	29.05.2019	16464858	Published	
	America			16.04.2020	
				Granted	
	Japan	18.06.2010	2010522010	20.01.2021	-
	FPO	22.07.2019	2019333010	Withdrown	
		22.07.2017	2017023703	16.03.2021	
	L	1	1	10.03.2021	J

TPO No.	39				
Appl. No.	PCT/IB2018/054762: WO2019003143				
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019003143				
Applicants	GlaxoSmithKline I	ntellectual Property	Development Limit	ted	
Priority Date	28.06.2017				
Details	The application c indoleamine 2,3-di such as HIV, HCV chronic bacterial in	The application claims compounds with a Markush structure which modulate indoleamine 2,3-dioxygenase (IDO1), which is associated with chronic viral infections such as HIV, HCV and HBV, autoimmune disorders, neurodegenerative disorders and chronic bacterial infections such as tuberculosis			
Claims	The application has Markush structure claim, 2 are claims claimed as indolea and for diseases li infection.	The application has 16 claims, 1 independent and 15 dependent claims consisting of 1 Markush structure claim. There are 9 secondary claims, of which 1 is a formulation claim, 2 are claims for use and 6 are claims for methods of treatment. The compounds claimed as indoleamine modulators are used for the treatment of HIV, HCV and TB, and for diseases like Parkinson's disease, Huntington's disease and prosthetic joint infaction			
ISR	The ISR/WOSA/II Netherlands, being the novelty claims priority date, but b document).	PRP were published the ISA. The ISR list in the application (before the filing dat	d, with the Europea sted 3 documents, co 1 of them being a do e of the application	an Patent Office, Ri mprising 2 which dis ocument published af) and 1 other docum	jswijk, lodged fter the nent (E
TPO	The TPO filed 4 prior art documents, none from the ISR. All 4 documents dislodged the inventive step arguments of the claims in the application. 1 prior art document used was a periodical article and 3 were patent documents. It is interesting to note that the scaffolds claimed in the application were similar to the scaffolds and compounds claimed in WO'108 and WO'107 – for which TPOs were filed earlier.				
Date of Filing of TPO	The TPO was filed	on 28.10.2019.			
National Phase as of	Office	Entry Date	National Number	National Status	
07.10.2022	United States of America	02.12.2019	16618461	Published 13.05.2021	
	Canada	11.12.2019	3066973		
	Japan	26.12.2019	2019572171		
	China	27.12.2019	201880043633.7	Published 11.02.2020	
	Brazil	31.12.2019	112019027363	Withdrawn 21.12.2021	
	EPO	28.01.2020	2018749513	Published 06.05.2020 Withdrawn 08.06.2021	

TPO No.	62
Appl. No.	PCT/US2018/061117: WO2019099564
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019099564
Applicants	Children's Medical Center Corporation and Dana-Farber Cancer Institute, Inc
Priority Date	14.11.2017
Details	The application is a basic molecule application as well as a biologic application for HIV, HCV and TB.
	It claims imidazopyrimidine compounds and their derivatives as enhancers or modifiers of an immune response and thus useful in treating and/or preventing diseases, as adjuvants in a vaccine for various diseases (e.g., proliferative disease, inflammatory disease, autoimmune disease, infectious disease or chronic disease), or as stand-alone anti-infective or immune response modifying agents. It also claims pharmaceutical compositions, kits, methods and uses including or using the claimed compounds. The diseases listed include HIV, HCV and TB as well as several other diseases such as influenza, cancer, allergy, HPV, HBV, smallpox, yellow fever, mumps, etc.
	The mechanism of action of the claimed compounds is immune response enhancing/modifying activity as well as stand-alone anti-infective activity.
	In the description, the applicant discloses that commercial libraries were screened for activation of human immune cells and adjuvant activity and that the SAR of known imidazopyrimidine compounds was studied for the generation of the claimed compounds present in the pharmaceutical composition/vaccine of the present application.
Claims	The application has 67 claims, of which 1 is an independent claim and the remaining 66 are dependent claims.
	It claims 3 Markush structures and 38 specific compounds. Of the 3 Markush structures, 1 is a primary Markush structure and 2 are derivative Markush structures. However, the derivative Markush structures are not numbered specifically.
	The applicant also specifically disclaims 6 compounds in 1 of the claims. From the description, it appears that these compounds were part of the imidazopyrimidine compounds that were screened by the applicant.
	The application claims the imidazopyrimidine compounds as well as their pharmaceutically acceptable salts.
	There are 52 secondary claims, of which 52 are formulation claims, 2 are dosage claims, 3 are use claims, 46 are method of treatment claims, 51 are combination claims and 1 is an "other" claim.
	Of the 52 claims for formulation, 2 claims are for pharmaceutical composition per se. All the 46 method of treatment claims, 3 use claims and 1 "other" claim all relate to either the claimed compounds or the claimed compositions. Thus, all the secondary claims have been counted as formulation claims too.
	The 2 dosage claims, which disclose frequency of dosing, of the claimed composition have been drafted as method of treatment claims.
	The 1 "other" claim relates to a kit comprising the claimed compound or the claimed pharmaceutical composition.

	Of the 3 claims for use, 2 claims are drafted as use of compound/pharmaceutical composition as medicament (also specifically as immunomodulator); 1 claim is drafted as use of compound/pharmaceutical composition for treating diseases.
	All 46 method of treatment claims relate either to the claimed compounds, compositions thereof or where the claimed compound is an adjuvant in a vaccine. Of these, 28 claims relate to the treatment of various diseases/conditions or protection against a range of pathogens (claims 18-45). Two claims relate to frequency of dosing, 1 claim relates to route of administration, 12 claims relate to targeted patient, condition and time of administration. Two claims relate to administration of the claimed composition as a prophylactic (n = 1) and as combination therapy (n = 1). One claim relates to method of enhancing an immune response in a subject.
	Of the 51 claims for combination, 1 claim is drafted as a composition claim per se and another claim is drafted as a method of treatment claim wherein the claimed composition is administered as part of combination therapy. All the secondary claims (except 1 formulation claim) impliedly include a reference to the claimed combination and have therefore been counted as combination claims too.
	The application broadly claims method of treatment with claimed compounds/pharmaceutical compositions thereof of various conditions such as proliferative, inflammatory, autoimmune, viral, bacterial and paediatric infections and specifically lists certain diseases, including influenza, HIV, HCV and TB.
ISR	The ISR, WOSA and IPRP have been published; the USPTO is the ISA.
	The ISR cites 5 documents, of which 2 are X documents, 1 is a Y document and 2 are A documents. In the ISR, one of the documents listed for novelty (X) was also listed for inventive step (Y).
	The search strategy has been separately published.
TPO	Two TPOs were filed.
	The first TPO cites 6 documents. Of these 6 documents, 3 documents are used to assail inventive step and 3 documents are used to assail both novelty and inventive step. Two of these documents are periodicals and 4 are patent documents.
	In the first TPO, 7 further/additional documents (5 periodical prior art documents and 2 patent documents) were cited along with the main documents cited for which notes were written. Of the 7 additional documents, (i) 2 additional periodical articles each were cited in support of a periodical article and a patent document ($n = 4$), (ii) 1 additional periodical article was cited in support of a patent document, and (iii) 1 additional patent document each was cited in support of 2 patent documents ($n = 2$).
	A second TPO with a note on 1 patent document (which was used as an additional/supporting document in the first TPO) was also filed on the same day. "Additional comments" were also filed with this TPO. In the description, the applicant discloses and admits that commercial libraries were screened for activation of human immune cells and adjuvant activity and that the SAR of known imidazopyrimidine compounds was studied for the generation of the claimed compounds present in the pharmaceutical composition/vaccine of the present application. Thus, 1 of the additional documents is an "additional comment" which highlights the admissions by the applicant in the description to point out that the claimed imidazopyrimidine compounds lack inventive step.

Date of Filing of TPO	The TPO was filed	on 16.03.2020.		
National Phase as of	Office	Entry Date	National Number	National Status
07.10.2022	Japan	14.05.2020	2020526527	
	United States of America	14.05.2020	16754171	Published 04.08.2022
	Republic of Korea	12.06.2020	1020207016955	Published 22.07.2020
	EPO	15.06.2020	2018879326	
	China	30.06.2020	201880084871.2	Published
				13.11.2020

TPO No.	63
Appl. No.	PCT/US2018/061135: WO2019099578
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019099578
Applicants	Children's Medical Center Corporation and Dana-Farber Cancer Institute, Inc
Priority Date	14.11.2017
Details	The application is a biologic application for HIV, HCV and TB.
	The application claims compositions comprising an antigen and imidazopyrimidine compound for enhancing human immune response and/or as adjuvants in vaccines. It also claims methods of enhancing immune response in a subject by administering the imidazopyrimidine compounds per se.
	The diseases listed include HIV, HCV and TB as well as several other diseases such as influenza, cancer, allergy, HPV, HBV, smallpox, yellow fever, mumps, etc.
	The mechanism of action of the claimed compounds is immune response enhancing activity.
	In the description, the applicant discloses that commercial libraries were screened for activation of human immune cells and adjuvant activity and that the SAR of known imidazopyrimidine compounds was extensively studied for the generation of compounds present in the pharmaceutical composition/vaccine of the present application.
Claims	This application claims pharmaceutical compositions/vaccine containing imidazopyrimidine compounds and an antigen. This application was filed on the same day as WO2019099564 by the same applicant (for which TPO #62 above was filed). The descriptions of both the applications are almost identical. However, the 6 compounds specifically disclaimed in WO2019099564 have been specifically claimed in the pharmaceutical compositions and method of treatment claims of the present application.
	The application has 143 claims, of which 7 are independent claims and 136 are dependent claims. Of the 7 independent claims, 2 are formulation claims, 3 are method of treatment claims and 2 are use claims.
	All 143 claims relate to either pharmaceutical composition, method of treatment and use of imidazopyrimidine compounds as an adjuvant along with an antigen or method of enhancing immune response with imidazopyrimidine compound per se. Therefore, this is primarily a secondary application.
	The application does not claim the Markush structures per se. However, the secondary claims (formulation and method of treatment claims) relate to 3 Markush structures and 42 specific imidazopyrimidine compounds (or their salts). Of the 3 Markush structures, 1 is a primary Markush structure (Formula I) and the other 2 are derivative Markush structures. The 2 derivative Markush structures are not numbered specifically.
	There are 47 formulation claims, 2 use claims, 94 method of treatment claims and 131 combination claims.
	Of the 47 formulation claims, 1 independent formulation claim is for a composition comprising an antigen and an imidazopyrimidine compound, 13 dependent claims list the antigens for the claimed composition, 16 dependent claims define the Markush structures or the imidazopyrimidine compounds for the claimed composition, 13 dependent claims further define the composition itself (i.e., conjugation of

	imidazopyrimidine compound to the antigen; adsorption onto alum, vaccine and possible second adjuvants). The second independent formulation claim relates to a vaccine comprising an antigen and an imidazopyrimidine compound as an adjuvant and 3 dependent claims further define the vaccine composition, including adjuvant system.
	Of the 2 use claims, 1 is for use of an imidazopyrimidine compound as an adjuvant in a vaccine and the second claim is for use of an imidazopyrimidine compound to enhance immune response in a subject.
	Of the 94 method of treatment claims, 82 claims relate to method of enhancing immune response with a composition comprising imidazopyrimidine compound and an antigen (wherein specific antigens and imidazopyrimidine compounds along with other adjuvants are claimed), 1 claim relates to method of vaccinating a subject with the claimed composition or vaccine, 1 claim relates to method of treating a disease with the claimed composition or vaccine and 10 claims relate to a method of enhancing immune response by administration of the claimed imidazopyrimidine compounds alone.
	Apart from the 2 use claims claiming use of imidazopyrimidine compounds as adjuvants and enhancing immune response and 10 method of treatment claims for enhancement of immune response by administration of imidazopyrimidine compounds alone, all the other claims (i.e., $n = 131$) have been considered as combination claims.
	With respect to diseases, the application broadly claims method of treatment with claimed compounds/pharmaceutical compositions thereof of various conditions such as proliferative, inflammatory, autoimmune, viral, bacterial and paediatric infections and specifically lists certain diseases, including influenza, HIV, HCV and TB. Therefore, the number of diseases is counted as > 10 .
ISR	The ISR, WOSA and IPRP have been published; the USPTO is the ISA.
	The ISR cites 9 documents, of which 7 are X documents, 1 is a Y document and 1 is an A document. In the ISR, one of the documents listed for novelty (X) was also listed for inventive step (Y).
	The search strategy has been senarately published
TPO	The TPO cites 7 documents. Of these 7 documents, 3 documents are used to assail inventive step and 4 documents are used to assail both novelty and inventive step. Of these 7 documents, 3 are periodicals, 3 are patent documents and 1 is a book.
	Five additional documents were cited in the TPO. Of these, 1 was a book chapter to support another book chapter itself; 1 patent document each was cited in support of a periodical article and a patent document (i.e., $n = 2$); and 1 periodical article was cited in support of a patent document. As mentioned earlier, 1 document, i.e., "additional comments", was also uploaded along with the TPO.
	"Additional comments" were filed along with the TPO pointing out how the imidazopyrimidine compounds claimed in the composition and method of treatment claims are not novel (previously known compounds) or lack inventive step.
	Given the commonality of the descriptions of WO2019099564 and this application, 2 patent documents (i.e., WO2012088411 and WO2006033703) were used as common prior art documents for both these TPOs.

ntry Data		
III y Dait	National Number	National Status
3.05.2020	16763847	Published 10.09.2020
.05.2020	2020526547	
2.06.2020	1020207016958	Published 22.07.2020
5.06.2020	2018878690	
3.07.2020	201880086316.3	Published 25.08.2020
5.	05.2020 05.2020 06.2020 06.2020 07.2020	Number 05.2020 16763847 05.2020 2020526547 06.2020 1020207016958 06.2020 2018878690 07.2020 201880086316.3

PART E: Case Summaries: Applications claiming HIV and TB treatments

TPO No.	60					
Appl. No.	PCT/US2018/057126: WO/2019/084020					
Link to Appl.	https://patentscope.	wipo.int/search/en/c	letail.jsfdocId=WO	2019084020		
Applicants	Gilead Sciences, Inc.					
Priority Date	24.10.2017	24.10.2017				
Details	The application cla HBV) and tubercul and an antimycobac	ims treatment of a positive streatment of a positive stream of a combination of the stream of the st	patient co-infected ation of tenofovir a pecifically rifampio	with a viral disease (l lafenamide fumarate cin.	HIV or (TAF)	
Claims	31 claims are secondary claims (2 independent and 29 dependent claims), wherein an 31 claims are secondary claims. All 31 claims are also combination, method of treatment and dosage claims. Of the 31 claims, 3 claims are specifically for formulation. All the claims are for method of treatment for treating a patient with a viral condition (HIV or HBV) co-infected with TB with a combination of TAF and an anti-mycobacterial agent, more specifically rifampicin. One of the independent claims is for a combination of TAF and anti-mycobacterial agent. The second independent claim is for a combination of TAF, bictegravir and emtricitabine in combination with rifampicin. The 3 formulation claims are the method of treatment claims claiming treatment with a single tablet; of these, 2 claims also refer to the doses of the therapeutic agents. Both the independent claims refer to the dosage and/or dose and therefore, all 31 claims are counted as dosage claims too. Of these dosage claims, the 2 formulation claims specifically refer to the doses. Thirteen method of treatment claims characterise the pharmacokinetic parameters, i.e., TAF and TFV exposure.					
ISR	The ISR comprises 5 documents. One of them is listed to describe only the general state of the art and not considered to be of particular relevance (A) and 4 of them are listed as Y documents, wherein the claimed invention cannot be considered to involve an inventive step when the said document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.					
	The TPO was filed on 24.02.2020 and comprises 7 prior art documents. Of the 7 documents, 1 is a patent application, 5 are periodical articles and 1 is an "other" prior art document. Also, 1 document was used only for novelty, 1 was used for both novelty and inventive step and 5 documents were used only for inventive step. In the TPO, the 1 "other" prior art document used is a report of a conference proceeding. An additional document was uploaded to establish the date of the report. The US Department of Health and Human Services (DHHS) guidelines are referred to as a supporting document. However, it was not uploaded. The 1 document used to assail only novelty is a PX document, a report of a conference proceeding.					
Date of Filing of TPO	The TPO was filed	on 24.02.2020.				
National Phase as of	Office	Entry Date	National Number	National Status		
07.10.2022	EPO	25.05.2020	2018800413	Withdrawn 19.12.2020		

PART F: Case Summaries: Applications claiming HIV and HCV treatments

TPO No.	28					
Appl. No.	PCT/US2018/024288: WO2018183171					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018183171					
Applicants	Bristol-Myers Squibb Company					
Priority Date	27.03.2017					
Details	The compounds in the application are substituted isoquinoline derivatives as					
	immunomodulators, used for the treatment of cancer and infectious diseases, HIV,					
	HCV, etc. The compounds are inhibitors of protein PD-1 and PD-L1 and CD80/PD-L1					
	protein interactions.					
Claims	There are a total of	f 15 claims, of whi	ch 1 claim has a Mar	kush structure, while	e there	
	are 5 specific com	pounds claimed. O	ne specific compoun	d has been listed tw	ice, as	
	two of its isomeric	forms have also b	een claimed. Fourtee	in claims are depend	ent on	
	one claim. There is	one formulation cla	aim and 9 method of t	reatment claims, 2 of	which	
ICD	The LSD (WOSA /II	combination claims	S.	n Datant Office Di		
ISK	Netherlands being	the ISA Two pri	or art documents we	in Patent Office, Rij	swijk,	
	document that affe	ted the novelty of	the application and the	he listed in the ISK	- one	
	listed as a general of	locument	the application and th	le same document wa	15 0150	
TPO	The TPO contained	t both the ISR doc	uments and 1 addition	nal document – tota	lling 3	
110	prior art documents 2 of which would affect the povelty and inventive step, whereas 1					
	prior art document was used that affects the inventive step claimed in the application.					
	The 3 prior art documents used were prior patent applications.					
Date of Filing	The TPO was filed on 29.07.2019.					
of TPO						
National Phase	Office	Entry Date	National	National Status		
as of			Number			
07.10.2022	Japan	26.09.2019	2019553088			
	China	27.09.2019	201880022254.X	Published		
				15.11.2019	-	
	United States of	17.09.2019	16499009	Published		
	America			11.06.2020		
				Granted		
		22.10.2010	1000107001000	29.06.2021		
	Republic of	23.10.2019	102019/031232	Published		
	Korea EDO	20.10.2010	201071(072	03.12.2019		
		28.10.2019	2018/108/3		J	

TPO No.	30
Appl. No.	PCT/US2018/027969: WO2018195075
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018195075
Applicants	Aquinnah Pharmaceuticals, Inc.
Priority Date	19.04.2017
Details	The application makes claims of compounds, compositions used for modulation of
	TDP-43 inclusion formation and stress granules in cells, used in the treatment of HIV,
	HCV and other diseases such as neurogenerative, musculoskeletal, ophthalmological
	diseases or disorders, cancer, etc.
Claims	The application has 51 claims, of which 1 is an independent claim and 50 are dependent
	claims. The application claims a patent on 4 Markush structures (1 main formula and
	3 derived from the main Markush) and 22 specific compounds. There are 23 secondary
	claims, all of which are for formulation; 22 claims are also for use of the compounds.
	The secondary claims are also characterised by the mechanism of action, that is,
100	modulation of TDP-43 inclusion formation and stress granules.
ISR	The ISR/WOSA/IPRP were published, with USPTO being the ISA. There were 4
	documents listed in the ISR, of which 3 were general documents and 1 was a document
	affecting the novelty – though published after the priority date of the application, but
	before the filing date.
ТРО	The TPO used only I of the ISR documents and added another 3 documents as prior
	art challenging the inventive step and the novelty claims in the application. One
	document was used only for inventive step and 3 documents were used for both novelty
	and inventive step challenges. All 4 documents used as prior art were patent documents.
Date of Filing	The TPO was filed on 19.08.2019.
of TPO	
National Phase	No national phase entries.
as of	
07.10.2022	

TPO No.	32
Appl. No.	PCT/IB2018/052936: WO2018198084
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2018198084
Applicants	Lupin Limited
Priority Date	27.04.2017
Details	The application claims cyclic di-nucleotide compounds with tricyclic nucleobases, their tautomeric forms, stereoisomers, pharmaceutically acceptable salts, and their combination with suitable medicament, by the use of STING modulators, for the treatment of HIV, HCV and cancer, among other diseases.
Claims	There are 25 claims, which consist of 2 independent claims and 23 dependent claims. The application contains 3 Markush structures and about 30 specific compounds. The application claims the salt forms, the tautomeric, stereoisomeric forms, and its pharmaceutically accepted hydrate, solvate, or its prodrug. There are about 12 secondary claims, of which 4 are claims for formulations, 2 claims are for the use of the compounds, whereas 6 claims are for method of treatment. There are 3 claims for the combination of the compounds, and all 3 are drafted as composition claims – thus overlapping with the formulation claims.
ISR	The ISR/WOSA/IPRP were published, with the European Patent Office, Rijswijk, Netherlands, being the ISA. The ISR quoted 4 prior art documents, of which 3 were general documents and 1 document was a document affecting novelty of the application, though it was published after the priority date but prior to the filing date of the application. The document affecting the novelty of the claims in the application was also listed as a general document.
ТРО	The TPO used 1 of the ISR documents and 3 additional documents that would affect the inventive step and the novelty of the application. The document used after the priority date would affect both novelty and inventive step. The TPO used 1 periodical article and 3 patent documents as prior art documents to challenge the claims in the application.
Date of Filing of TPO	The TPO was filed on 27.08.2019.
National Phase as of 07.10.2022	No national phase entries.

	T					
TPO No.	50					
Appl. No.	PCT/US2018/052180: WO2019060692					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019060692					
Applicants	Chimerix, Inc.					
Priority Date	21.09.2017					
Details	The application claims crystalline hemihydrate forms of an antiviral compound which is claimed for antiviral infections, including norovirus, HIV and HCV. The claimed compound appears to be a derivative, a CMX-521, which is presently being developed for treatment of norovirus. It is a secondary application, and no mechanism of action has been disclosed. Crystallisation conditions using water activity as a parameter have been claimed. It may be noted that as per Adis Insight, CMX-521 is tagged as DNA-directed RNA polymerase modulators, nucleoside reverse transcriptase inhibitors and polymerase inhibitors.					
Claims	The application has 43 secondary claims, of which 15 are independent claims and 28 are dependent claims. There are 2 formulation claims, 21 claims of the crystalline form of the compounds (1 of which is a claim of the hemihydrate form of compound A, and 6 are claims of forms of compounds B to G), 4 claims for the use of the compounds and 3 claims for method of treatment. There are 13 process claims too in the application					
ISR	The ISR/WOSA/IPRP were published, with the European Patent Office. Riiswiik.					
	Netherlands, being the ISA. The ISR has only 1 document against the novelty claims					
	of the application.					
TPO	The TPO used 3 prior art documents, none from the ISR. Two of the documents in the prior art were for inventive step and one was for both inventive step and novelty. Two of the documents used in the TPO were periodical articles and 1 was a book.					
Date of Filing of TPO	The TPO was filed on 21.01.2020.					
National Phase as of	Office	Entry Date	National Number	National Status		
07.10.2022	United States of America	10.03.2020	16645876	Published 03.09.2020 Granted 07.09.2021		
	EPO	21.04.2020	2018808140			

TPO No.	52					
Appl. No.	PCT/CN2018/106983: WO2019057158					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019057158					
Applicants	Jiangsu Hengrui Me	Jiangsu Hengrui Medicine Co., Ltd and Shanghai Hengrui Pharmaceutical Co., Ltd				
Priority Date	22.09.2017					
Details	The application clai	ms compounds and	pharmaceutical cor	npositions containing	g fused	
	heteroaryl derivativ	ves acting as TLR	-7 agonists for the	e treatment of many	viral	
	diseases, HIV, HCV, HPV, HBV, SARS, Zika virus, cancer, etc.					
Claims	The application has	s 26 claims, 2 indep	pendent and 24 dep	endent claims. The	claims	
	contain 10 Markusl	h structures, with 8	specific compound	s, and 9 secondary c	laims.	
	The tautomer, race	mate, enantiomer, d	iastereomer or mixt	tures of the compoun	ids are	
	also claimed. One claim is for a formulation, 5 are for the use of the compounds, and 3					
	are other claims for	process.		~ ~ ~ ~ ~ ~ ~ ~		
ISR	The ISR/WOSA/IPRP were published, with the China State Intellectual Property					
	Office being the ISA. The ISR has 6 prior art documents, 2 of which are against the					
	novelty, and 4 are general documents against claims of the application.					
ТРО	The TPO annexed only 1 document, not from the ISR. The TPO, however, refers to 2					
	documents of the ISR (I general and I novelty-challenging document) in the note. The					
	TPO referred to only I periodical document, but along with it, filed an additional					
	periodical document. The prior art was against the novelty and inventive step claims of					
	the application.					
Date of Filing	The TPO was filed	on 22.01.2020.				
of IPO	0.00					
National Phase	Office	Entry Date	National	National Status		
as of	<u> </u>	00.02.2020	Number	D 11 1 1		
07.10.2022	China	09.03.2020	201880058416.5	Published		
				24.04.2020		
				Granted		
				23.08.2022		

TPO No.	54					
Appl. No.	PCT/US2018/053871: WO2019070643					
Link to Appl.	https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019070643					
Applicants	Bristol-Myers Squi	Bristol-Myers Squibb Company				
Priority Date	03.10.2017	03.10.2017				
Details	The application claims macrocyclic peptides which inhibit the PD-1/PD-L1 and PD-					
	L1/CD80 protein/protein interaction, and thus are useful for the amelioration of various					
	diseases, including cancer and infectious diseases, like HIV, HCV, HBV, herpes virus,					
	influenza, etc.					
Claims	There are 16 claim	s, 1 independent c	laim and 15 depende	nt claims. One claim	i has a	
	Markush structure,	whereas there are	12 secondary claims.	All 12 secondary clair	ms are	
	method of treatmen	nt claims, and 4 are	claims for combinati	ons.		
ISR	The ISR/WOSA/I	PRP were publishe	ed, with the Europea	in Patent Office, Rij	jswijk,	
	Netherlands, being	Netherlands, being the ISA. The ISR has only 1 document against the novelty claims				
	of the application.			100 0 1		
ТРО	The TPO referred	to 2 prior art doci	iments, none from th	e ISR. One docume	nt was	
	against only inventive step and the other was against both novelty and inventive step.					
	The TPO was filed on 02 02 2020					
of TPO	The TFO was med on 05.02.2020.					
National Phase	Office	Entry Date	National	National Status		
as of			Number			
07.10.2022	China	25.02.2020	201880055279.X	Published		
				21.04.2020		
	Japan	02.04.2020	2020519054		1	
	United States of	03.04.2020	16753666	Published		
	America			17.09.2020		
	EPO	04.05.2020	2018793327]	
	Republic of		1020207012116	Published]	
	Korea			27.05.2020		