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<110> Baxalta Incorporated
Baxalta GmbH
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Ewenstein, Bruce
Ploder, Bettina

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<130> 008073-5201-US

<140> US 16/030,659

<141> 2018-07-09

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<151> 2018-07-09

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<151> 2017-07-07

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<170> PatentIn versión 3.5

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Ser	Asp	His	His	Thr	Met	Cys	Tyr	Cys	Glu	Asp	Gly	Phe	Met	His	Cys	
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Thr	Met	Ser	Gly	Val	Pro	Gly	Ser	Leu	Leu	Pro	Asp	Ala	Val	Leu	Ser	
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Ser	Pro	Leu	Ser	His	Arg	Ser	Lys	Arg	Ser	Leu	Ser	Cys	Arg	Pro	Pro	
			740					745					750			
Met	Val	Lys	Leu	Val	Cys	Pro	Ala	Asp	Asn	Leu	Arg	Ala	Glu	Gly	Leu	
		755					760					765				
Glu	Cys	Thr	Lys	Thr	Cys	Gln	Asn	Tyr	Asp	Leu	Glu	Cys	Met	Ser	Met	
	770					775					780					
Gly	Cys	Val	Ser	Gly	Cys	Leu	Cys	Pro	Pro	Gly	Met	Val	Arg	His	Glu	
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Asn	Arg	Cys	Glu	Arg	Cys	Pro	Cys	Phe	His	Gln	Gly	Lys	Glu	Tyr	Ala	
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Val	Val	Leu	Lys	Gln	Thr	Tyr	Gln	Glu	Lys	Val	Cys	Gly	Leu	Cys	Gly	
965					970					975						
Asn	Phe	Asp	Gly	Ile	Gln	Asn	Asn	Asp	Leu	Thr	Ser	Ser	Asn	Leu	Gln	
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Gln	Cys	Ala	Asp	Thr	Arg	Lys	Val	Pro	Leu	Asp	Ser	Ser	Pro	Ala		
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Ser	Cys	Glu	Ser	Ile	Gly	Asp	Cys	Ala	Cys	Phe	Cys	Asp	Thr	Ile		
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Ala	Ala	Tyr	Ala	His	Val	Cys	Ala	Gln	His	Gly	Lys	Val	Val	Thr		
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Trp	Arg	Thr	Ala	Thr	Leu	Cys	Pro	Gln	Ser	Cys	Glu	Glu	Arg	Asn		
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Leu	Arg	Glu	Asn	Gly	Tyr	Glu	Cys	Glu	Trp	Arg	Tyr	Asn	Ser	Cys		

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Cys Pro Val Gln Cys Val Glu Gly Cys His Ala His Cys Pro Pro				
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Gly Lys Ile Leu Asp Glu Leu Leu Gln Thr Cys Val Asp Pro Glu				
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Asp Cys Pro Val Cys Glu Val Ala Gly Arg Arg Phe Ala Ser Gly				
1175		1180		1185
Lys Lys Val Thr Leu Asn Pro Ser Asp Pro Glu His Cys Gln Ile				
1190		1195		1200
Cys His Cys Asp Val Val Asn Leu Thr Cys Glu Ala Cys Gln Glu				
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Pro Gly Gly Leu Val Val Pro Pro Thr Asp Ala Pro Val Ser Pro				
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Thr Thr Leu Tyr Val Glu Asp Ile Ser Glu Pro Pro Leu His Asp				
1235		1240		1245
Phe Tyr Cys Ser Arg Leu Leu Asp Leu Val Phe Leu Leu Asp Gly				
1250		1255		1260
Ser Ser Arg Leu Ser Glu Ala Glu Phe Glu Val Leu Lys Ala Phe				
1265		1270		1275
Val Val Asp Met Met Glu Arg Leu Arg Ile Ser Gln Lys Trp Val				
1280		1285		1290
Arg Val Ala Val Val Glu Tyr His Asp Gly Ser His Ala Tyr Ile				
1295		1300		1305
Gly Leu Lys Asp Arg Lys Arg Pro Ser Glu Leu Arg Arg Ile Ala				
1310		1315		1320
Ser Gln Val Lys Tyr Ala Gly Ser Gln Val Ala Ser Thr Ser Glu				
1325		1330		1335
Val Leu Lys Tyr Thr Leu Phe Gln Ile Phe Ser Lys Ile Asp Arg				
1340		1345		1350
Pro Glu Ala Ser Arg Ile Thr Leu Leu Leu Met Ala Ser Gln Glu				
1355		1360		1365
Pro Gln Arg Met Ser Arg Asn Phe Val Arg Tyr Val Gln Gly Leu				
1370		1375		1380
Lys Lys Lys Lys Val Ile Val Ile Pro Val Gly Ile Gly Pro His				

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Ala	Asn	Leu	Lys	Gln	Ile	Arg	Leu	Ile	Glu	Lys	Gln	Ala	Pro	Glu	
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Arg	Asp	Glu	Ile	Val	Ser	Tyr	Leu	Cys	Asp	Leu	Ala	Pro	Glu	Ala	
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Ala	Gln	Ser	Lys	Gly	Asp	Ile	Leu	Gln	Arg	Val	Arg	Glu	Ile	Arg	
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Gly	Gly	Pro	Ser	Gln	Ile	Gly	Asp	Ala	Leu	Gly	Phe	Ala	Val	Arg	
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Tyr	Leu	Thr	Ser	Glu	Met	His	Gly	Ala	Arg	Pro	Gly	Ala	Ser	Lys	
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Ala	Val	Val	Ile	Leu	Val	Thr	Asp	Val	Ser	Val	Asp	Ser	Val	Asp	
1775						1780						1785			
Ala	Ala	Ala	Asp	Ala	Ala	Arg	Ser	Asn	Arg	Val	Thr	Val	Phe	Pro	
1790						1795						1800			
Ile	Gly	Ile	Gly	Asp	Arg	Tyr	Asp	Ala	Ala	Gln	Leu	Arg	Ile	Leu	
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Ala	Gly	Pro	Ala	Gly	Asp	Ser	Asn	Val	Val	Lys	Leu	Gln	Arg	Ile	
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Glu	Asp	Leu	Pro	Thr	Met	Val	Thr	Leu	Gly	Asn	Ser	Phe	Leu	His	
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Lys	Leu	Cys	Ser	Gly	Phe	Val	Arg	Ile	Cys	Met	Asp	Glu	Asp	Gly	
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Asn	Glu	Lys	Arg	Pro	Gly	Asp	Val	Trp	Thr	Leu	Pro	Asp	Gln	Cys	
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His	Thr	Val	Thr	Cys	Gln	Pro	Asp	Gly	Gln	Thr	Leu	Leu	Lys	Ser	
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Ile	Glu 1985	Val	Lys	His	Ser	Ala 1990	Leu	Ser	Val	Glu	Leu 1995	His	Ser	Asp	
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Pro	Glu 2105	Gln	Cys	Leu	Val	Pro 2110	Asp	Ser	Ser	His	Cys 2115	Gln	Val	Leu	
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Val	Cys 2150	Glu	Val	Ile	Ala	Ser 2155	Tyr	Ala	His	Leu	Cys 2160	Arg	Thr	Asn	
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Cys	Pro 2180	Pro	Ser	Leu	Val	Tyr 2185	Asn	His	Cys	Glu	His 2190	Gly	Cys	Pro	
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Gly	Gln	Ile	Met	Thr	Leu	Lys	Arg	Asp	Glu	Thr	Leu	Gln	Asp	Gly	
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Cys	Asp	Thr	His	Phe	Cys	Lys	Val	Asn	Glu	Arg	Gly	Glu	Tyr	Phe	
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Trp	Glu	Lys	Arg	Val	Thr	Gly	Cys	Pro	Pro	Phe	Asp	Glu	His	Lys	
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Cys	Leu	Ala	Glu	Gly	Gly	Lys	Ile	Met	Lys	Ile	Pro	Gly	Thr	Cys	
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Cys	Asp	Thr	Cys	Glu	Glu	Pro	Glu	Cys	Asn	Asp	Ile	Thr	Ala	Arg	
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Leu	Gln	Tyr	Val	Lys	Val	Gly	Ser	Cys	Lys	Ser	Glu	Val	Glu	Val	
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Asp	Ile	His	Tyr	Cys	Gln	Gly	Lys	Cys	Ala	Ser	Lys	Ala	Met	Tyr	
2720						2725					2730				
Ser	Ile	Asp	Ile	Asn	Asp	Val	Gln	Asp	Gln	Cys	Ser	Cys	Cys	Ser	

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Pro Thr Arg Thr Glu Pro Met Gln His Cys Thr Asn Gly Ser Val				
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Val Tyr His Glu Val Leu Asn Ala Met Glu Cys Lys Cys Ser Pro				
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Arg Lys Cys Ser Lys				
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 <223> VWF maduro

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	20 25 30
Asp Leu Glu Cys Met Ser Met Gly Cys Val Ser Gly Cys Leu Cys Pro	
	35 40 45
Pro Gly Met Val Arg His Glu Asn Arg Cys Val Ala Leu Glu Arg Cys	
	50 55 60
Pro Cys Phe His Gln Gly Lys Glu Tyr Ala Pro Gly Glu Thr Val Lys	
65	70 75 80
Ile Gly Cys Asn Thr Cys Val Cys Arg Asp Arg Lys Trp Asn Cys Thr	
	85 90 95
Asp His Val Cys Asp Ala Thr Cys Ser Thr Ile Gly Met Ala His Tyr	
	100 105 110
Leu Thr Phe Asp Gly Leu Lys Tyr Leu Phe Pro Gly Glu Cys Gln Tyr	
	115 120 125
Val Leu Val Gln Asp Tyr Cys Gly Ser Asn Pro Gly Thr Phe Arg Ile	
	130 135 140
Leu Val Gly Asn Lys Gly Cys Ser His Pro Ser Val Lys Cys Lys Lys	
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Arg Val Thr Ile Leu Val Glu Gly Gly Glu Ile Glu Leu Phe Asp Gly	
	165 170 175

Glu	Val	Asn	Val	Lys	Arg	Pro	Met	Lys	Asp	Glu	Thr	His	Phe	Glu	Val	180	185	190
Val	Glu	Ser	Gly	Arg	Tyr	Ile	Ile	Leu	Leu	Leu	Gly	Lys	Ala	Leu	Ser	195	200	205
Val	Val	Trp	Asp	Arg	His	Leu	Ser	Ile	Ser	Val	Val	Leu	Lys	Gln	Thr	210	215	220
Tyr	Gln	Glu	Lys	Val	Cys	Gly	Leu	Cys	Gly	Asn	Phe	Asp	Gly	Ile	Gln	225	230	235
Asn	Asn	Asp	Leu	Thr	Ser	Ser	Asn	Leu	Gln	Val	Glu	Glu	Asp	Pro	Val	245	250	255
Asp	Phe	Gly	Asn	Ser	Trp	Lys	Val	Ser	Ser	Gln	Cys	Ala	Asp	Thr	Arg	260	265	270
Lys	Val	Pro	Leu	Asp	Ser	Ser	Pro	Ala	Thr	Cys	His	Asn	Asn	Ile	Met	275	280	285
Lys	Gln	Thr	Met	Val	Asp	Ser	Ser	Cys	Arg	Ile	Leu	Thr	Ser	Asp	Val	290	295	300
Phe	Gln	Asp	Cys	Asn	Lys	Leu	Val	Asp	Pro	Glu	Pro	Tyr	Leu	Asp	Val	305	310	315
Cys	Ile	Tyr	Asp	Thr	Cys	Ser	Cys	Glu	Ser	Ile	Gly	Asp	Cys	Ala	Cys	325	330	335
Phe	Cys	Asp	Thr	Ile	Ala	Ala	Tyr	Ala	His	Val	Cys	Ala	Gln	His	Gly	340	345	350
Lys	Val	Val	Thr	Trp	Arg	Thr	Ala	Thr	Leu	Cys	Pro	Gln	Ser	Cys	Glu	355	360	365
Glu	Arg	Asn	Leu	Arg	Glu	Asn	Gly	Tyr	Glu	Cys	Glu	Trp	Arg	Tyr	Asn	370	375	380
Ser	Cys	Ala	Pro	Ala	Cys	Gln	Val	Thr	Cys	Gln	His	Pro	Glu	Pro	Leu	385	390	395
Ala	Cys	Pro	Val	Gln	Cys	Val	Glu	Gly	Cys	His	Ala	His	Cys	Pro	Pro	405	410	415
Gly	Lys	Ile	Leu	Asp	Glu	Leu	Leu	Gln	Thr	Cys	Val	Asp	Pro	Glu	Asp	420	425	430
Cys	Pro	Val	Cys	Glu	Val	Ala	Gly	Arg	Arg	Phe	Ala	Ser	Gly	Lys	Lys	435	440	445
Val	Thr	Leu	Asn	Pro	Ser	Asp	Pro	Glu	His	Cys	Gln	Ile	Cys	His	Cys	450	455	460

Asp	Val	Val	Asn	Leu	Thr	Cys	Glu	Ala	Cys	Gln	Glu	Pro	Gly	Gly	Leu	465	470	475	480
Val	Val	Pro	Pro	Thr	Asp	Ala	Pro	Val	Ser	Pro	Thr	Thr	Leu	Tyr	Val	485	490	495	
Glu	Asp	Ile	Ser	Glu	Pro	Pro	Leu	His	Asp	Phe	Tyr	Cys	Ser	Arg	Leu	500	505	510	
Leu	Asp	Leu	Val	Phe	Leu	Leu	Asp	Gly	Ser	Ser	Arg	Leu	Ser	Glu	Ala	515	520	525	
Glu	Phe	Glu	Val	Leu	Lys	Ala	Phe	Val	Val	Asp	Met	Met	Glu	Arg	Leu	530	535	540	
Arg	Ile	Ser	Gln	Lys	Trp	Val	Arg	Val	Ala	Val	Val	Glu	Tyr	His	Asp	545	550	555	560
Gly	Ser	His	Ala	Tyr	Ile	Gly	Leu	Lys	Asp	Arg	Lys	Arg	Pro	Ser	Glu	565	570	575	
Leu	Arg	Arg	Ile	Ala	Ser	Gln	Val	Lys	Tyr	Ala	Gly	Ser	Gln	Val	Ala	580	585	590	
Ser	Thr	Ser	Glu	Val	Leu	Lys	Tyr	Thr	Leu	Phe	Gln	Ile	Phe	Ser	Lys	595	600	605	
Ile	Asp	Arg	Pro	Glu	Ala	Ser	Arg	Ile	Thr	Leu	Leu	Leu	Met	Ala	Ser	610	615	620	
Gln	Glu	Pro	Gln	Arg	Met	Ser	Arg	Asn	Phe	Val	Arg	Tyr	Val	Gln	Gly	625	630	635	640
Leu	Lys	Lys	Lys	Lys	Val	Ile	Val	Ile	Pro	Val	Gly	Ile	Gly	Pro	His	645	650	655	
Ala	Asn	Leu	Lys	Gln	Ile	Arg	Leu	Ile	Glu	Lys	Gln	Ala	Pro	Glu	Asn	660	665	670	
Lys	Ala	Phe	Val	Leu	Ser	Ser	Val	Asp	Glu	Leu	Glu	Gln	Gln	Arg	Asp	675	680	685	
Glu	Ile	Val	Ser	Tyr	Leu	Cys	Asp	Leu	Ala	Pro	Glu	Ala	Pro	Pro	Pro	690	695	700	
Thr	Leu	Pro	Pro	Asp	Met	Ala	Gln	Val	Thr	Val	Gly	Pro	Gly	Leu	Leu	705	710	715	720
Gly	Val	Ser	Thr	Leu	Gly	Pro	Lys	Arg	Asn	Ser	Met	Val	Leu	Asp	Val	725	730	735	
Ala	Phe	Val	Leu	Glu	Gly	Ser	Asp	Lys	Ile	Gly	Glu	Ala	Asp	Phe	Asn	740	745	750	

Arg	Ser	Lys	Glu	Phe	Met	Glu	Glu	Val	Ile	Gln	Arg	Met	Asp	Val	Gly		
		755					760					765					
Gln	Asp	Ser	Ile	His	Val	Thr	Val	Leu	Gln	Tyr	Ser	Tyr	Met	Val	Thr		
	770					775					780						
Val	Glu	Tyr	Pro	Phe	Ser	Glu	Ala	Gln	Ser	Lys	Gly	Asp	Ile	Leu	Gln		
785					790					795					800		
Arg	Val	Arg	Glu	Ile	Arg	Tyr	Gln	Gly	Gly	Asn	Arg	Thr	Asn	Thr	Gly		
				805					810					815			
Leu	Ala	Leu	Arg	Tyr	Leu	Ser	Asp	His	Ser	Phe	Leu	Val	Ser	Gln	Gly		
			820					825					830				
Asp	Arg	Glu	Gln	Ala	Pro	Asn	Leu	Val	Tyr	Met	Val	Thr	Gly	Asn	Pro		
		835					840					845					
Ala	Ser	Asp	Glu	Ile	Lys	Arg	Leu	Pro	Gly	Asp	Ile	Gln	Val	Val	Pro		
	850					855					860						
Ile	Gly	Val	Gly	Pro	Asn	Ala	Asn	Val	Gln	Glu	Leu	Glu	Arg	Ile	Gly		
865					870					875					880		
Trp	Pro	Asn	Ala	Pro	Ile	Leu	Ile	Gln	Asp	Phe	Glu	Thr	Leu	Pro	Arg		
				885					890					895			
Glu	Ala	Pro	Asp	Leu	Val	Leu	Gln	Arg	Cys	Cys	Ser	Gly	Glu	Gly	Leu		
			900					905					910				
Gln	Ile	Pro	Thr	Leu	Ser	Pro	Ala	Pro	Asp	Cys	Ser	Gln	Pro	Leu	Asp		
		915					920					925					
Val	Ile	Leu	Leu	Leu	Asp	Gly	Ser	Ser	Ser	Phe	Pro	Ala	Ser	Tyr	Phe		
	930					935					940						
Asp	Glu	Met	Lys	Ser	Phe	Ala	Lys	Ala	Phe	Ile	Ser	Lys	Ala	Asn	Ile		
945					950					955					960		
Gly	Pro	Arg	Leu	Thr	Gln	Val	Ser	Val	Leu	Gln	Tyr	Gly	Ser	Ile	Thr		
				965					970					975			
Thr	Ile	Asp	Val	Pro	Trp	Asn	Val	Val	Pro	Glu	Lys	Ala	His	Leu	Leu		
			980					985					990				
Ser	Leu	Val	Asp	Val	Met	Gln	Arg	Glu	Gly	Gly	Pro	Ser	Gln	Ile	Gly		
		995					1000					1005					
Asp	Ala	Leu	Gly	Phe	Ala	Val	Arg	Tyr	Leu	Thr	Ser	Glu	Met	His			
	1010					1015					1020						
Gly	Ala	Arg	Pro	Gly	Ala	Ser	Lys	Ala	Val	Val	Ile	Leu	Val	Thr			
	1025					1030					1035						

Asp	Val	Ser	Val	Asp	Ser	Val	Asp	Ala	Ala	Ala	Asp	Ala	Ala	Arg
1040						1045					1050			
Ser	Asn	Arg	Val	Thr	Val	Phe	Pro	Ile	Gly	Ile	Gly	Asp	Arg	Tyr
1055						1060					1065			
Asp	Ala	Ala	Gln	Leu	Arg	Ile	Leu	Ala	Gly	Pro	Ala	Gly	Asp	Ser
1070						1075					1080			
Asn	Val	Val	Lys	Leu	Gln	Arg	Ile	Glu	Asp	Leu	Pro	Thr	Met	Val
1085						1090					1095			
Thr	Leu	Gly	Asn	Ser	Phe	Leu	His	Lys	Leu	Cys	Ser	Gly	Phe	Val
1100						1105					1110			
Arg	Ile	Cys	Met	Asp	Glu	Asp	Gly	Asn	Glu	Lys	Arg	Pro	Gly	Asp
1115						1120					1125			
Val	Trp	Thr	Leu	Pro	Asp	Gln	Cys	His	Thr	Val	Thr	Cys	Gln	Pro
1130						1135					1140			
Asp	Gly	Gln	Thr	Leu	Leu	Lys	Ser	His	Arg	Val	Asn	Cys	Asp	Arg
1145						1150					1155			
Gly	Leu	Arg	Pro	Ser	Cys	Pro	Asn	Ser	Gln	Ser	Pro	Val	Lys	Val
1160						1165					1170			
Glu	Glu	Thr	Cys	Gly	Cys	Arg	Trp	Thr	Cys	Pro	Cys	Val	Cys	Thr
1175						1180					1185			
Gly	Ser	Ser	Thr	Arg	His	Ile	Val	Thr	Phe	Asp	Gly	Gln	Asn	Phe
1190						1195					1200			
Lys	Leu	Thr	Gly	Ser	Cys	Ser	Tyr	Val	Leu	Phe	Gln	Asn	Lys	Glu
1205						1210					1215			
Gln	Asp	Leu	Glu	Val	Ile	Leu	His	Asn	Gly	Ala	Cys	Ser	Pro	Gly
1220						1225					1230			
Ala	Arg	Gln	Gly	Cys	Met	Lys	Ser	Ile	Glu	Val	Lys	His	Ser	Ala
1235						1240					1245			
Leu	Ser	Val	Glu	Leu	His	Ser	Asp	Met	Glu	Val	Thr	Val	Asn	Gly
1250						1255					1260			
Arg	Leu	Val	Ser	Val	Pro	Tyr	Val	Gly	Gly	Asn	Met	Glu	Val	Asn
1265						1270					1275			
Val	Tyr	Gly	Ala	Ile	Met	His	Glu	Val	Arg	Phe	Asn	His	Leu	Gly
1280						1285					1290			
His	Ile	Phe	Thr	Phe	Thr	Pro	Gln	Asn	Asn	Glu	Phe	Gln	Leu	Gln
1295						1300					1305			

Leu	Ser	Pro	Lys	Thr	Phe	Ala	Ser	Lys	Thr	Tyr	Gly	Leu	Cys	Gly
1310						1315					1320			
Ile	Cys	Asp	Glu	Asn	Gly	Ala	Asn	Asp	Phe	Met	Leu	Arg	Asp	Gly
1325						1330					1335			
Thr	Val	Thr	Thr	Asp	Trp	Lys	Thr	Leu	Val	Gln	Glu	Trp	Thr	Val
1340						1345					1350			
Gln	Arg	Pro	Gly	Gln	Thr	Cys	Gln	Pro	Ile	Leu	Glu	Glu	Gln	Cys
1355						1360					1365			
Leu	Val	Pro	Asp	Ser	Ser	His	Cys	Gln	Val	Leu	Leu	Leu	Pro	Leu
1370						1375					1380			
Phe	Ala	Glu	Cys	His	Lys	Val	Leu	Ala	Pro	Ala	Thr	Phe	Tyr	Ala
1385						1390					1395			
Ile	Cys	Gln	Gln	Asp	Ser	Cys	His	Gln	Glu	Gln	Val	Cys	Glu	Val
1400						1405					1410			
Ile	Ala	Ser	Tyr	Ala	His	Leu	Cys	Arg	Thr	Asn	Gly	Val	Cys	Val
1415						1420					1425			
Asp	Trp	Arg	Thr	Pro	Asp	Phe	Cys	Ala	Met	Ser	Cys	Pro	Pro	Ser
1430						1435					1440			
Leu	Val	Tyr	Asn	His	Cys	Glu	His	Gly	Cys	Pro	Arg	His	Cys	Asp
1445						1450					1455			
Gly	Asn	Val	Ser	Ser	Cys	Gly	Asp	His	Pro	Ser	Glu	Gly	Cys	Phe
1460						1465					1470			
Cys	Pro	Pro	Asp	Lys	Val	Met	Leu	Glu	Gly	Ser	Cys	Val	Pro	Glu
1475						1480					1485			
Glu	Ala	Cys	Thr	Gln	Cys	Ile	Gly	Glu	Asp	Gly	Val	Gln	His	Gln
1490						1495					1500			
Phe	Leu	Glu	Ala	Trp	Val	Pro	Asp	His	Gln	Pro	Cys	Gln	Ile	Cys
1505						1510					1515			
Thr	Cys	Leu	Ser	Gly	Arg	Lys	Val	Asn	Cys	Thr	Thr	Gln	Pro	Cys
1520						1525					1530			
Pro	Thr	Ala	Lys	Ala	Pro	Thr	Cys	Gly	Leu	Cys	Glu	Val	Ala	Arg
1535						1540					1545			
Leu	Arg	Gln	Asn	Ala	Asp	Gln	Cys	Cys	Pro	Glu	Tyr	Glu	Cys	Val
1550						1555					1560			
Cys	Asp	Pro	Val	Ser	Cys	Asp	Leu	Pro	Pro	Val	Pro	His	Cys	Glu
1565						1570					1575			

Arg	Gly	Leu	Gln	Pro	Thr	Leu	Thr	Asn	Pro	Gly	Glu	Cys	Arg	Pro
	1580					1585					1590			
Asn	Phe	Thr	Cys	Ala	Cys	Arg	Lys	Glu	Glu	Cys	Lys	Arg	Val	Ser
	1595					1600					1605			
Pro	Pro	Ser	Cys	Pro	Pro	His	Arg	Leu	Pro	Thr	Leu	Arg	Lys	Thr
	1610					1615					1620			
Gln	Cys	Cys	Asp	Glu	Tyr	Glu	Cys	Ala	Cys	Asn	Cys	Val	Asn	Ser
	1625					1630					1635			
Thr	Val	Ser	Cys	Pro	Leu	Gly	Tyr	Leu	Ala	Ser	Thr	Ala	Thr	Asn
	1640					1645					1650			
Asp	Cys	Gly	Cys	Thr	Thr	Thr	Thr	Cys	Leu	Pro	Asp	Lys	Val	Cys
	1655					1660					1665			
Val	His	Arg	Ser	Thr	Ile	Tyr	Pro	Val	Gly	Gln	Phe	Trp	Glu	Glu
	1670					1675					1680			
Gly	Cys	Asp	Val	Cys	Thr	Cys	Thr	Asp	Met	Glu	Asp	Ala	Val	Met
	1685					1690					1695			
Gly	Leu	Arg	Val	Ala	Gln	Cys	Ser	Gln	Lys	Pro	Cys	Glu	Asp	Ser
	1700					1705					1710			
Cys	Arg	Ser	Gly	Phe	Thr	Tyr	Val	Leu	His	Glu	Gly	Glu	Cys	Cys
	1715					1720					1725			
Gly	Arg	Cys	Leu	Pro	Ser	Ala	Cys	Glu	Val	Val	Thr	Gly	Ser	Pro
	1730					1735					1740			
Arg	Gly	Asp	Ser	Gln	Ser	Ser	Trp	Lys	Ser	Val	Gly	Ser	Gln	Trp
	1745					1750					1755			
Ala	Ser	Pro	Glu	Asn	Pro	Cys	Leu	Ile	Asn	Glu	Cys	Val	Arg	Val
	1760					1765					1770			
Lys	Glu	Glu	Val	Phe	Ile	Gln	Gln	Arg	Asn	Val	Ser	Cys	Pro	Gln
	1775					1780					1785			
Leu	Glu	Val	Pro	Val	Cys	Pro	Ser	Gly	Phe	Gln	Leu	Ser	Cys	Lys
	1790					1795					1800			
Thr	Ser	Ala	Cys	Cys	Pro	Ser	Cys	Arg	Cys	Glu	Arg	Met	Glu	Ala
	1805					1810					1815			
Cys	Met	Leu	Asn	Gly	Thr	Val	Ile	Gly	Pro	Gly	Lys	Thr	Val	Met
	1820					1825					1830			
Ile	Asp	Val	Cys	Thr	Thr	Cys	Arg	Cys	Met	Val	Gln	Val	Gly	Val
	1835					1840					1845			

Ile	Ser	Gly	Phe	Lys	Leu	Glu	Cys	Arg	Lys	Thr	Thr	Cys	Asn	Pro
	1850					1855					1860			
Cys	Pro	Leu	Gly	Tyr	Lys	Glu	Glu	Asn	Asn	Thr	Gly	Glu	Cys	Cys
	1865					1870					1875			
Gly	Arg	Cys	Leu	Pro	Thr	Ala	Cys	Thr	Ile	Gln	Leu	Arg	Gly	Gly
	1880					1885					1890			
Gln	Ile	Met	Thr	Leu	Lys	Arg	Asp	Glu	Thr	Leu	Gln	Asp	Gly	Cys
	1895					1900					1905			
Asp	Thr	His	Phe	Cys	Lys	Val	Asn	Glu	Arg	Gly	Glu	Tyr	Phe	Trp
	1910					1915					1920			
Glu	Lys	Arg	Val	Thr	Gly	Cys	Pro	Pro	Phe	Asp	Glu	His	Lys	Cys
	1925					1930					1935			
Leu	Ala	Glu	Gly	Gly	Lys	Ile	Met	Lys	Ile	Pro	Gly	Thr	Cys	Cys
	1940					1945					1950			
Asp	Thr	Cys	Glu	Glu	Pro	Glu	Cys	Asn	Asp	Ile	Thr	Ala	Arg	Leu
	1955					1960					1965			
Gln	Tyr	Val	Lys	Val	Gly	Ser	Cys	Lys	Ser	Glu	Val	Glu	Val	Asp
	1970					1975					1980			
Ile	His	Tyr	Cys	Gln	Gly	Lys	Cys	Ala	Ser	Lys	Ala	Met	Tyr	Ser
	1985					1990					1995			
Ile	Asp	Ile	Asn	Asp	Val	Gln	Asp	Gln	Cys	Ser	Cys	Cys	Ser	Pro
	2000					2005					2010			
Thr	Arg	Thr	Glu	Pro	Met	Gln	Val	Ala	Leu	His	Cys	Thr	Asn	Gly
	2015					2020					2025			
Ser	Val	Val	Tyr	His	Glu	Val	Leu	Asn	Ala	Met	Glu	Cys	Lys	Cys
	2030					2035					2040			
Ser	Pro	Arg	Lys	Cys	Ser	Lys								
	2045					2050								