

Figure S4: Predicted and observed HIV-1 reverse transcriptase amino acid substitutions for the neutral model

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
1P	97.55	L ¹³ Q ⁶⁹ S ¹³ T ²	0	-
2I	0.67	V ¹	0	-
3S	0.02	-	0	-
4P	0	-	0.5	-
5I	15.89	V ¹⁶	0.5	V ¹
6E	96.57	D ⁹⁶	7.8	D ⁷ K ¹
7T	30.44	P ³⁰	0.1	-
8V	0.08	-	0.9	I ¹
9P	0.94	Q ¹	0	-
10V	0	-	0	-
11K	100	T ¹⁰⁰	2.3	R ²
12L	0	-	0	-
13K	0	-	0	-
14P	0	-	0	-
15G	0	-	0	-
16M	99.95	L ¹⁶ T ⁸⁴	0	-
17D	0	-	0	-
18G	0	-	0	-
19P	0	-	0	-
20K	91.02	N ²⁷ R ⁶³	9.8	R ¹⁰
21V	0.04	-	1.1	I ¹
22K	6.82	E ¹ Q ³ R ¹ T ²	0.4	-
23Q	0	-	0	-
24W	100	L ⁹⁵ R ³ S ¹	0	-
25P	0	-	0	-
26L	0	-	0.1	-
27T	5.95	P ⁶	0.5	S ¹
28E	0	-	0.8	A ¹
29E	0.09	-	0	-
30K	16.10	Q ¹⁶	0.9	Q ¹
31I	0.01	-	0.2	-
32K	26.09	Q ¹ R ²⁴	2.4	G ¹ R ¹
33A	0	-	0	-
34L	0	-	0.9	T ¹
35V	99.39	E ² I ⁷ L ⁹⁰	27.4	I ¹⁵ L ⁴ M ² T ⁶
36E	1.46	K ¹ Q ¹	3	D ¹ N ²
37I	0.13	-	1.9	F ²
38C	NA	NA	NA	NA
39T	86.42	K ⁵⁴ N ²⁴ R ⁸	4.6	A ³ K ¹
40E	4.09	K ³ Q ¹	0.5	D ¹
41M	15.89	L ¹⁶	1.7	L ²
42E	0	-	0	-
43K	36.22	E ⁵ N ²⁸ Q ¹ R ²	0.8	-
44E	51.41	D ²¹ K ⁹ Q ²¹	0.3	-
45G	0	-	0.1	-
46K	15.89	R ¹⁶	0.1	-
47I	0.13	-	0	-
48S	0.29	-	2.6	E ¹ T ²
49K	1.62	R ¹ T ¹	4.7	R ⁵
50I	3.03	T ² V ²	1.4	V ¹

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
51G	0	-	0	-
52P	0.02	-	0	-
53E	100	D ¹⁰⁰	0.6	D ¹
54N	100	D ⁹⁷ I ³	0	-
55P	0.01	-	0	-
56Y	0	-	0	-
57N	69.71	S ⁷⁰	0	-
58T	1.53	I ²	0	-
59P	0	-	0	-
60V	0.29	-	11.6	I ¹²
61F	3.44	Y ³	0	-
62A	73.49	S ¹² T ¹ V ⁶¹	0.2	-
63I	0.13	-	0	-
64K	8.08	N ⁸	1.5	R ²
65K	10.50	E ⁷ N ¹ Q ¹	0.1	-
66K	100	N ¹⁰⁰	0	-
67D	99.53	G ⁶⁹ N ³⁰	0.7	N ¹
68S	96.83	G ⁸⁹ N ⁷ T ¹	4.2	G ⁴
69T	99.98	N ¹⁰⁰	1.3	N ¹ S ¹
70K	99.82	E ¹² Q ⁶¹ T ²⁷	0.4	-
71W	0	-	0	-
72R	0	-	0	-
73K	100	E ² N ⁹⁸	0	-
74L	3.45	V ³	0.1	-
75V	0	-	0	-
76D	0	-	0	-
77F	0	-	0	-
78R	0	-	0	-
79E	0	-	0.2	-
80L	0	-	0	-
81N	1.55	D ²	0	-
82K	2.18	N ² R ¹	0.4	-
83R	0	-	16.3	K ¹⁶
84T	0	-	0	-
85Q	0	-	0	-
86D	0.10	-	1.1	E ¹
87F	0	-	0	-
88W	30.30	S ³⁰	0	-
89E	46.91	D ³ K ³ Q ⁴⁰	0	-
90V	57.07	G ⁴³ I ¹⁴	1.6	I ²
91Q	12.55	L ¹³	0	-
92L	0	-	0	-
93G	0	-	0	-
94I	99.65	L ¹⁰ T ⁹⁰	0	-
95P	0	-	0	-
96H	0	-	0	-
97P	0	-	0	-
98A	100	S ¹⁰⁰	6.1	S ⁶
99G	0	-	0	-
100L	0	-	0	-

	Computational Model Neutral parameters		Stanford Database Pre-inhibitor Treatment	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
101K	0.28	-	1.7	Q ¹ R ¹
102K	34.75	E ¹ N ²⁸ Q ⁵	5.1	Q ³ R ²
103K	5.50	Q ¹ T ⁴	4.9	N ² R ³
104K	2.29	N ² T ¹	2.5	R ²
105S	88.37	F ⁶² Y ²⁷	0.2	-
106V	0	-	1.7	I ²
107T	0	-	0.2	-
108V	0	-	0.3	-
109L	0	-	0	-
110D	NA	NA	NA	NA
111V	96.56	I ⁹⁷	0.3	-
112G	31.07	A ¹ S ³⁰	0	-
113D	69.72	N ⁷⁰	0	-
114A	0	-	0	-
115Y	0.02	-	0	-
116F	99.94	L ¹⁰⁰	0	-
117S	5.45	L ¹ T ³	0	-
118V	0	-	2.6	I ³
119P	0	-	0	-
120L	0	-	0	-
121D	0.13	-	5	H ³ Y ²
122K	37.48	E ²⁷ Q ⁵ R ⁵	31.9	E ²⁷ P ³ Q ¹
123D	3.01	E ² N ²	28.9	E ²⁴ G ¹ N ³ S ¹
124F	50.00	Y ⁵⁰	0	-
125R	0	-	0	-
126K	0.55	E ¹	0	-
127Y	15.89	F ¹⁶	0	-
128T	0	-	0	-
129A	0	-	0	-
130F	0	-	0	-
131T	0	-	0	-
132I	0.01	-	0.1	-
133P	0	-	0	-
134S	0	-	0	-
135I	58.52	K ² L ¹⁸ R ³ S ² T ³ V ³¹	42.8	L ³ M ¹ R ³ T ²⁸ V ⁸
136N	0	-	0	-
137N	25.05	H ²⁵	0	-
138E	12.74	D ¹²	2.1	A ²
139T	0.01	-	0.8	-
140P	0.16	-	0	-
141G	0	-	0	-
142I	6.20	K ⁴ V ¹	9.4	T ³ V ⁶
143R	1.69	I ²	0.1	-
144Y	0	-	0	-
145Q	92.42	R ⁹²	0	-
146Y	0.29	-	0	-
147N	0.67	D ¹	0	-
148V	0	-	0	-
149L	0	-	0	-
150P	0	-	0	-

	Computational Model Neutral parameters		Stanford Database Pre-inhibitor Treatment	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
151Q	99.87	P ¹⁰⁰	0	-
152G	0	-	0	-
153W	0	-	0	-
154K	0	-	0	-
155G	0	-	0	-
156S	99.87	A ¹⁰⁰	0	-
157P	1.80	A ²	0	-
158A	0.01	-	1.7	S ²
159I	0	-	0.2	-
160F	0	-	0	-
161Q	6.70	E ³ L ³ R ¹	0	-
162S	33.36	R ⁴ T ²⁹	6.5	A ⁴ Y ²
163S	17.43	I ¹ N ¹ T ¹⁶	0.1	-
164M	100	L ¹⁰⁰	0	-
165T	13.98	K ⁹ R ⁴	3	I ³
166K	0.52	-	7.2	R ⁷
167I	0.02	-	0	-
168L	0	-	0	-
169E	0	-	5	D ⁵
170P	98.54	L ¹ Q ⁹⁴ R ³	0	-
171F	0	-	0.6	Y ¹
172R	1.70	I ²	0.2	-
173K	2.28	N ¹ Q ²	7.4	A ¹ E ³ N ¹ Q ¹ R ¹ T ¹
174Q	1.74	E ¹ K ¹	7.2	E ² H ¹ K ³ R ¹
175N	15.93	H ¹⁶	1	H ¹
176P	0.12	-	0.5	-
177D	0.06	-	21.4	E ²⁰ G ¹ N ¹
178I	15.89	V ¹⁶	15.5	L ⁵ M ⁹ V ¹
179V	0.10	-	6.1	D ² I ⁴
180I	0.39	-	0.7	V ¹
181Y	0.07	-	0	-
182Q	94.15	L ⁹⁴	0	-
183Y	50.01	F ⁵⁰	0	-
184M	0.15	-	1	V ¹
185D	NA	NA	NA	NA
186D	NA	NA	NA	NA
187L	0	-	0	-
188Y	69.71	F ⁷⁰	0.1	-
189V	0	-	1	I ¹
190G	0.30	-	0.2	-
191S	0	-	0	-
192D	0.30	-	0.1	-
193L	7.59	S ⁸	0	-
194E	96.13	D ⁴⁷ K ² Q ⁴⁷	0.3	-
195I	100	K ³⁰ L ² N ² R ³⁰ S ⁶ T ³⁰	1.3	L ¹
196G	100	D ² E ⁹⁸	14.9	E ¹⁴
197Q	28.38	K ¹⁴ L ¹ R ¹⁴	3.4	E ¹ K ¹
198H	0	-	0	-
199R	0	-	0	-
200T	92.64	K ⁹⁰ N ¹ R ¹	30.5	A ¹⁸ E ² I ⁹ V ¹

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
201K	4.24	N ³ Q ¹	0.3	-
202I	100	V ¹⁰⁰	9.4	V ⁹
203E	0.96	D ¹	1	D ¹
204E	0.01	-	4	D ¹ K ² Q ¹
205L	0	-	0	-
206R	0.01	-	0	-
207Q	7.81	E ⁸	24.7	A ² D ¹ E ¹⁷ G ¹ H ¹ K ² N ¹ R ¹
208H	30.47	D ³⁰	0.2	-
209L	0	-	0	-
210L	0.37	-	1.5	F ¹ W ¹
211R	0.67	K ¹	52.1	A ¹ G ⁴ K ⁴³ Q ² S ² T ¹
212W	99.98	R ⁹⁹ S ¹	0	-
213G	0	-	0	-
214F	67.06	I ³³ L ³³ V ¹	14.3	L ¹⁴
215T	2.46	I ¹ R ²	2.5	D ¹ S ¹
216T	0.13	-	0	-
217P	0	-	0	-
218D	0	-	0.1	-
219K	7.60	E ⁸	0.5	-
220K	72.17	N ⁶⁴ Q ² T ⁵	0	-
221H	100	D ¹⁶ N ⁸³ P ¹	0.1	-
222Q	3.45	L ³	0	-
223K	99.99	T ¹⁰⁰	0	-
224E	99.98	D ³⁰ G ⁷⁰	0.4	-
225P	0	-	0.1	-
226P	0	-	0	-
227F	99.87	Y ¹⁰⁰	0	-
228L	58.57	I ⁸ Q ⁴¹ R ⁸ V ¹	0.3	-
229W	0	-	0	-
230M	43.44	L ²⁵ R ¹⁹	0	-
231G	0	-	0	-
232Y	0.13	-	0	-
233E	69.85	D ⁶⁹	0	-
234L	0.01	-	0	-
235H	0.67	Y ¹	0	-
236P	0	-	0	-
237D	0.07	-	0.2	-
238K	84.55	N ⁸² Q ¹ R ¹	0.7	R ¹
239W	0	-	0	-
240T	0.73	S ¹	0	-
241V	99.71	D ¹⁰⁰	0.2	-
242Q	0.13	-	0	-
243P	0	-	0.5	-
244I	0.68	V ¹	1.2	V ¹
245V	69.88	D ⁶⁹	38	E ¹¹ I ² K ⁶ L ¹ M ¹¹ Q ³ T ²
246L	0	-	0	-
247P	0	-	0	-
248E	100	D ¹⁰⁰	5	D ⁴ N ¹
249K	27.63	Q ²⁴ R ¹ T ²	1.2	Q ¹
250D	0.02	N ³ Q ¹	4.8	E ⁵

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
251S	99.87	N ¹⁰⁰	1.6	I ¹
252W	0	-	0	-
253T	0	-	0	-
254V	0.30	-	0	-
255N	69.73	D ⁷⁰	0	-
256D	0.05	-	0	-
257I	99.71	L ¹⁰⁰	0.7	L ¹
258Q	0.74	L ¹	0	-
259K	87.60	E ⁶⁶ N ¹⁶ Q ⁵	0	-
260L	0	-	0	-
261V	80.77	I ⁷⁷ L ⁴	0.1	-
262G	100	A ¹⁰⁰	0	-
263K	6.74	E ³ Q ³	0	-
264L	0	-	0	-
265N	98.48	D ⁹⁸	0	-
266W	5.86	L ⁶	0	-
267A	0	-	0	-
268S	0	-	0	-
269Q	1.94	L ¹ R ¹	0	-
270I	0.13	-	0	-
271Y	3.44	F ³	0.2	-
272A	100	P ¹⁰⁰	53.4	G ¹ P ⁴⁵ S ⁶ T ²
273G	0	-	0	-
274I	4.87	L ¹ V ³	0.1	-
275K	1.83	R ¹ T ¹	2.1	Q ¹ R ¹
276V	100	D ¹⁰⁰	4.7	I ⁴ T ¹
277K	99.90	E ¹⁰⁰	40.7	R ⁴¹
278Q	92.41	E ⁹²	5.1	E ³ H ²
279L	0	-	0	-
280C	NA	NA	NA	NA
281K	0.13	-	5.7	R ⁶
282L	0	-	0	-
283L	0	-	6.2	I ⁶
284R	4.50	K ⁴	1.8	K ²
285G	0	-	0	-
286T	2.09	N ²	30.8	A ²⁹ P ¹
287K	32.22	N ² Q ¹³ T ¹⁷	0.2	-
288A	98.64	D ²² P ⁶⁷ S ¹⁰	9.3	S ⁸ T ¹
289L	0	-	0	-
290T	0.03	-	0	-
291E	7.76	K ⁸	3.6	D ⁴
292V	3.56	I ³	9.5	I ¹⁰
293I	98.47	V ⁹⁸	55.3	V ⁵⁵
294P	0	-	10.6	A ¹ Q ³ S ² T ⁵
295L	0.29	-	0.2	-
296T	3.44	S ³	1.2	S ¹
297E	3.29	K ¹ Q ¹	43.2	A ¹⁴ K ¹⁹ Q ¹ R ⁴ T ² V ²
298E	0.87	-	0.6	A ¹
299A	0	-	0	-
300E	16.09	Q ¹⁶	0.4	-

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
301L	98.59	Q ⁷ R ⁹¹	2	I ²
302E	0	-	0.3	-
303L	55.05	F ⁴⁵ I ² R ⁸	0	-
304A	54.33	D ⁹ E ⁴⁶	0.8	E ¹
305E	0.09	-	0	-
306N	0	-	0	-
307R	3.56	K ³	0.1	-
308E	3.69	D ³	0	-
309I	0.01	-	0.2	-
310L	0	-	0.5	I ¹
311K	10.60	E ³ Q ⁷	8.7	R ⁹
312E	82.19	D ⁴¹ G ⁴¹	7	K ² N ¹ Q ¹ T ² V ¹
313P	0	-	1.6	Q ¹ T ¹
314V	0.06	-	0.2	-
315H	100	D ⁹⁷ N ² Y ¹	0.1	-
316G	0	-	0	-
317V	0.67	D ¹	7.1	A ⁷
318Y	1.54	F ²	0	-
319Y	0.17	-	0.2	-
320D	0	-	0.2	-
321P	0	-	0.5	S ¹
322S	1.53	T ²	9.9	A ² T ⁸
323K	0.35	-	0.1	-
324D	0.01	-	7.1	E ⁶ P ¹
325L	0	-	0.7	I ¹
326I	38.50	F ¹² V ²⁷	16.1	V ¹⁶
327A	0.68	S ¹	1.6	V ²
328E	0	-	1	D ¹
329I	0.02	-	23	L ¹⁵ V ⁸
330Q	0.02	-	0	-
331K	0	-	0.1	-
332Q	3.60	L ³	0	-
333G	0	-	8.2	D ¹ E ⁷
334Q	0.69	-	32.8	D ¹ E ⁶ H ⁵ L ¹⁶ N ² Y ²
335G	0	-	3.8	D ³ S ¹
336Q	1.85	E ²	0	-
337W	0	-	0	-
338T	0	-	2.7	S ³
339Y	0	-	0.2	-
340Q	99.33	R ⁹⁹	0	-
341I	0	-	1.3	F ¹ V ¹
342Y	0	-	1.1	F ¹
343Q	0	-	0.1	-
344E	50.20	V ⁵⁰	0.9	D ¹
345P	0.02	-	2.8	Q ²
346F	31.04	S ¹ Y ³⁰	5.4	H ¹ Y ⁵
347K	0.78	N ¹	0.5	-
348N	34.09	D ²⁹ S ⁵	0.3	-
349L	0	-	0	-
350K	92.51	M ⁹¹ R ¹	0.4	-

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
351T	0	-	0	-
352G	0	-	0	-
353K	99.33	T ⁹⁹	0	-
354Y	0.02	-	0	-
355A	100	D ⁸⁹ T ⁷ V ³	2.3	G ¹ T ¹
356R	5.89	G ⁶	13.3	K ¹³
357M	100	I ⁵ K ⁵ R ⁶³ T ²¹ V ⁵	30.1	A ¹ I ² K ³ R ² T ²⁰ V ²
358R	99.62	G ⁵⁷ K ⁴³	5.3	K ⁵
359G	0	-	8.8	S ⁹
360A	99.71	D ¹ S ⁹⁹	14.4	T ¹⁴ V ¹
361H	99.81	D ⁸⁶ N ⁷ Y ⁷	0	-
362T	4.53	N ¹ S ³	0	-
363N	0.23	-	0	-
364D	0	-	0.6	E ¹
365V	0.08	-	3.3	I ³
366K	2.03	E ¹ R ¹	10	R ¹⁰
367Q	92.42	E ⁹²	0.6	L ¹
368L	0	-	0	-
369T	7.59	A ⁸	6.2	A ⁴ V ¹
370E	0.01	-	1.9	D ¹
371A	0.08	-	5.5	V ⁵
372V	0	-	0	-
373Q	9.78	E ¹⁰	0.6	H ¹
374K	75.24	R ⁷⁵	0.8	R ¹
375I	0	-	6.3	V ⁵
376A	0.06	-	33.8	S ⁶ T ²⁴ V ³
377T	99.87	I ⁵⁸ K ³³ R ⁸	17.2	I ² K ¹ L ³ M ⁴ Q ⁴ R ¹ S ¹ V ¹
378E	0	-	0	-
379S	0	-	6.9	G ⁷
380I	0.01	-	0.4	-
381V	0.06	-	4.4	I ⁴
382I	0.17	-	0.8	-
383W	0.06	-	0	-
384G	0	-	0	-
385K	64	R ⁶³ T ¹	4.4	R ⁴
386T	1.22	P ¹	18.7	A ¹ I ¹⁶ V ¹
387P	0	-	0	-
388K	0.02	-	1	R ¹
389F	0	-	0	-
390K	0	-	52.2	R ⁵²
391L	0	-	0.3	-
392P	0	-	0	-
393I	0	-	0.2	-
394Q	0.55	-	0.7	-
395K	1.32	R ¹	3.9	R ⁴
396E	30.40	D ³⁰	1.4	D ¹
397T	0.39	-	0.5	-
398W	0	-	0	-
399E	69.81	Q ⁶⁹	13.6	D ¹⁴
400A	99.93	D ⁴¹ E ¹ S ¹⁸ T ⁴¹	50	I ² L ¹ S ⁶ T ⁴⁰

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
401W	0	-	0	-
402W	0	-	0	-
403T	98.48	K ⁹⁸	24.7	A ² I ⁶ L ¹ M ¹² S ² V ¹
404E	12.59	D ³ Q ⁹	11.6	D ¹²
405Y	0	-	1.2	H ¹
406W	0	-	0	-
407Q	0.03	-	0	-
408A	0	-	0	-
409T	11.06	N ⁶ S ⁶	0	-
410W	99.71	S ⁹⁹	0	-
411I	3.45	V ³	1	V ¹
412P	0	-	0	-
413E	1.54	D ²	0.9	D ¹
414W	0	-	0	-
415E	1.55	V ²	0	-
416F	0	-	1	Y ¹
417V	98.84	D ⁹⁹	1.6	I ¹ T ¹
418N	99.49	D ⁹⁹	0.6	S ¹
419T	25.27	I ²⁵ N ¹	0	-
420P	0	-	0.2	-
421P	0	-	0.2	-
422L	0	-	0	-
423V	0	-	0	-
424K	99.54	N ⁹¹ Q ¹ R ⁴ T ³	0	-
425L	0	-	0	-
426W	0	-	0	-
427Y	0	-	0	-
428Q	1.66	E ²	0.2	-
429L	3.45	I ³	0	-
430E	69.71	Q ⁷⁰	0	-
431K	47.46	E ³⁰ Q ¹⁷	4.9	R ¹ T ³
432E	7.62	Q ⁸	10.1	D ¹⁰
433P	0	-	0	-
434I	0.67	V ¹	0.4	-
435V	100	D ¹⁰⁰	40.1	A ¹² E ⁷ I ¹⁵ L ³ M ¹ P ¹ T ¹
436G	0	-	1.9	E ²
437A	99.33	S ⁹⁹	2	V ²
438E	0	-	0	-
439T	0	-	0	-
440F	0	-	1.6	Y ²
441Y	0	-	0	-
442V	0	-	0	-
443D	100	G ² H ⁹⁸	0	-
444G	0	-	0	-
445A	100	G ⁸⁴ S ¹⁶	0	-
446A	84.58	G ⁸² S ³	5.5	S ⁶
447N	69.71	D ⁷⁰	4.7	S ⁴
448R	7.59	K ⁸	0.7	K ¹
449E	92.42	D ⁹²	6.2	D ⁵
450T	96.07	N ⁴⁸ S ⁴⁸	0.9	S ¹

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
451K	92.42	N ⁹²	4.1	R ⁴
452L	0.40	-	14	A ¹ I ⁵ K ¹ M ¹ Q ¹ S ⁵ V ¹
453G	0	-	0	-
454K	34.42	R ⁵ T ²⁹	4.8	R ⁵
455A	0.67	T ¹	0	-
456G	0	-	0	-
457Y	0.02	-	0	-
458V	0.13	-	0.9	I ¹
459T	0	-	0	-
460D	0.01	-	40	N ³⁸ S ²
461R	0.06	-	21.4	K ²¹
462G	0	-	0	-
463R	99.87	I ¹⁰⁰	3.1	K ³
464Q	1.81	R ²	0.3	-
465K	7.59	R ⁸	0.4	-
466V	99.34	D ⁹⁷ G ¹ I ¹ L ¹	6.8	A ⁵ I ²
467V	0.92	D ¹	13.8	I ¹⁴
468S	76.76	P ²³ T ⁵³	32.6	H ¹ P ²³ T ⁹
469L	15.89	F ¹⁶	7.2	I ⁶
470T	0	-	12.8	A ⁵ N ⁴ P ² S ¹
471D	100	G ¹⁰⁰	6.3	E ⁵ N ¹
472T	0	-	0.3	-
473T	0.01	-	0	-
474N	99.07	D ¹¹ I ⁵ K ¹¹ S ⁶⁰ T ¹¹	0	-
475Q	31.18	E ¹ K ³⁰	0	-
476K	8.14	T ⁸	2	Q ²
477T	96.56	A ⁹⁶	4.6	A ⁴
478E	0	-	0	-
479L	0.03	-	0	-
480Q	0.67	L ¹	6	E ¹ H ⁵
481A	0	-	0	-
482I	0.14	-	1	V ¹
483H	100	L ⁷⁰ R ³⁰	36.8	L ³ N ⁵ Q ⁶ Y ²³
484L	3.56	Q ³	0.3	-
485A	0	-	0	-
486L	0	-	0	-
487Q	0.06	-	0.7	-
488D	0	-	0	-
489S	0	-	0	-
490G	3.44	S ³	2.3	E ²
491L	96.56	S ⁹⁷	30.6	A ² P ² S ²² T ¹ V ⁴
492E	92.66	K ⁸⁹ Q ³	0.7	-
493V	84.20	A ¹ I ⁸⁴	0	-
494N	0.39	-	0	-
495I	0	-	0.7	-
496V	0.01	-	0.3	-
497T	15.93	I ¹⁶	0.4	-
498D	0.01	-	0	-
499S	0	-	0	-
500Q	98.84	L ⁹⁹	0	-

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
501Y	51.04	F ⁴⁹ N ²	0	-
502A	50.04	V ⁵⁰	1.7	V ¹
503L	0.39	-	2.5	I ²
504G	100	W ¹⁰⁰	0	-
505I	15.99	L ¹⁶	0	-
506I	84.13	L ⁸⁴	0.9	L ¹
507Q	50.60	L ⁴⁹ R ¹	1.9	H ²
508A	100	D ¹⁰⁰	0.3	-
509Q	0.29	-	2.7	H ¹ K ¹
510P	0	-	0	-
511D	0.07	-	0	-
512K	100	E ¹⁶ T ⁸⁴	12.4	I ¹ Q ⁴ R ⁶ T ¹
513S	0	-	0	-
514E	3.06	K ² Q ²	0.8	D ¹
515S	70.04	L ¹ T ⁶⁹	0	-
516E	31.07	D ³⁰ Q ¹	1.9	D ¹
517L	0.67	I ¹	17	I ¹² V ⁵
518V	98.26	E ⁴⁹ L ⁴⁹	0	-
519S	100	N ¹⁰⁰	36	N ³⁶
520Q	34.74	E ¹ K ²⁸ R ⁵	2.7	K ² L ¹
521I	0	-	0	-
522I	0.13	-	0	-
523E	1.82	Q ²	0.3	-
524Q	96.81	E ⁷ L ⁸⁹	12.9	E ¹²
525L	0	-	0	-
526I	0.01	-	1.1	V ¹
527K	0.69	-	13.9	N ¹⁰ Q ² R ²
528K	7.59	T ⁸	0	-
529E	14.21	K ⁷ Q ⁷	1.6	D ²
530K	7.59	R ⁸	4.3	R ⁴
531V	0.02	-	8	I ⁸
532Y	0	-	0	-
533L	96.56	F ⁹⁷	0.4	-
534A	100	S ¹⁰⁰	10.8	S ⁷ T ³
535W	0	-	0	-
536V	99.96	F ¹⁰⁰	0	-
537P	0	-	0	-
538A	100	P ¹⁰⁰	0	-
539H	99.97	N ¹⁰⁰	0	-
540K	100	N ¹ Q ³ R ³ T ⁹²	0	-
541G	1.17	D ¹	0	-
542I	25.11	F ²⁵	0	-
543G	0	-	0	-
544G	0	-	0	-
545N	99.96	D ¹ H ¹⁴ S ⁴³ T ⁴³	0	-
546E	0	-	0.3	-
547Q	2.64	E ³	2	K ²
548V	99.61	A ¹⁰⁰	4	I ⁴
549D	69.71	E ⁷⁰	0	-
550K	98.38	N ² Q ² R ³⁴ T ⁶⁰	0	-

	Computational Model <i>Neutral parameters</i>		Stanford Database <i>Pre-inhibitor Treatment</i>	
	% Non-Native	Predicted Mutations	% Non-Native	Observed Mutations
551L	0.01	-	0	-
552V	6.66	D ³ I ³	0	-
553S	70.03	G ¹ N ⁶⁹	0	-
554A	100	D ¹⁰⁰	46.7	K ¹ N ⁸ S ¹⁸ T ¹⁹
555G	0.05	-	0	-
556I	100	N ⁴⁹ T ⁴⁹ V ²	2.7	V ³
557R	0.15	-	0	-
558K	99.79	E ¹⁴ N ¹⁴ T ⁷²	13.3	R ¹³
559V	7.04	E ¹ N ¹ Q ¹ R ¹ T ¹	8.3	I ⁸
560L	30.05	A ⁴ D ⁴ E ⁴ F ⁴ G ⁴ I ⁴ M ⁴	0	-