

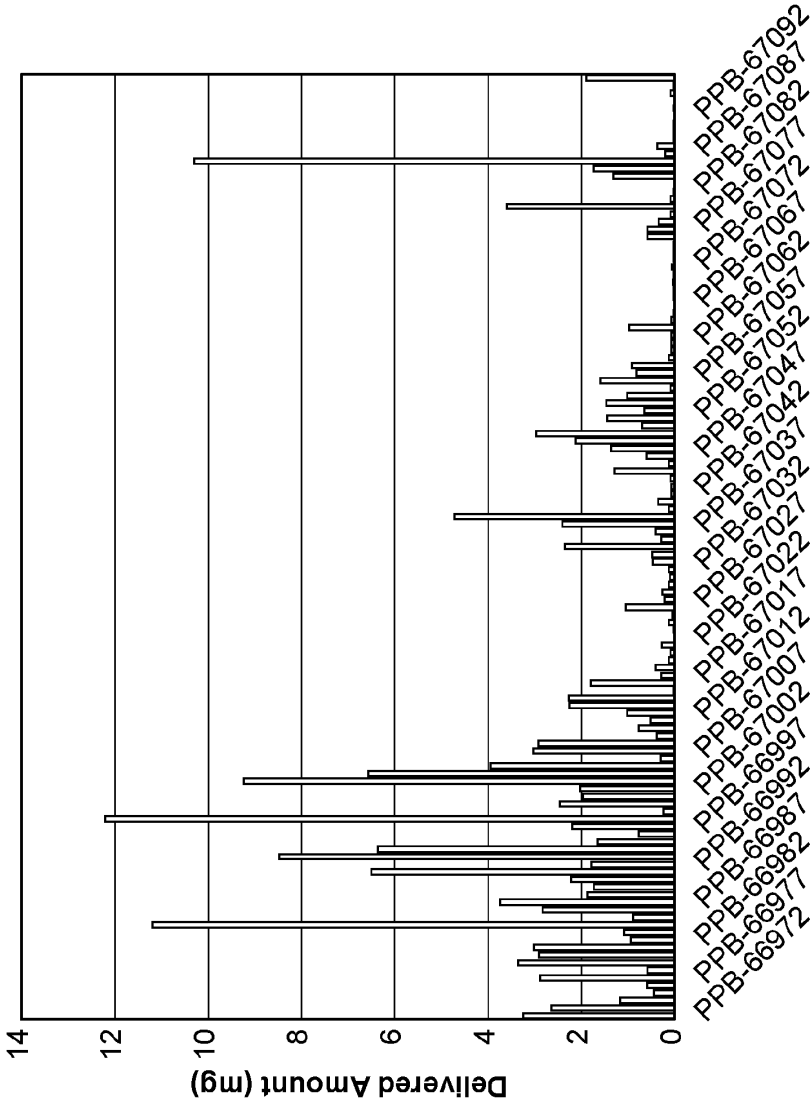


FIG. 1

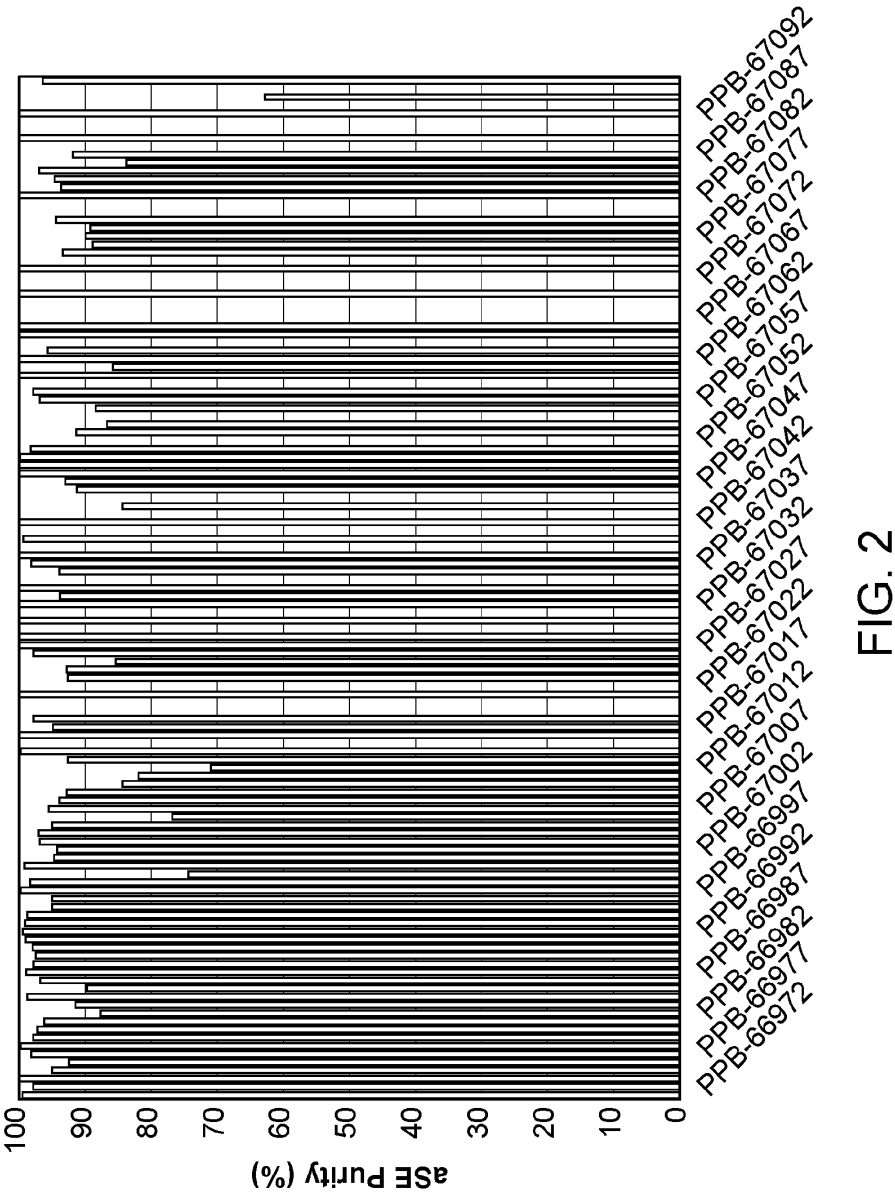


FIG. 2

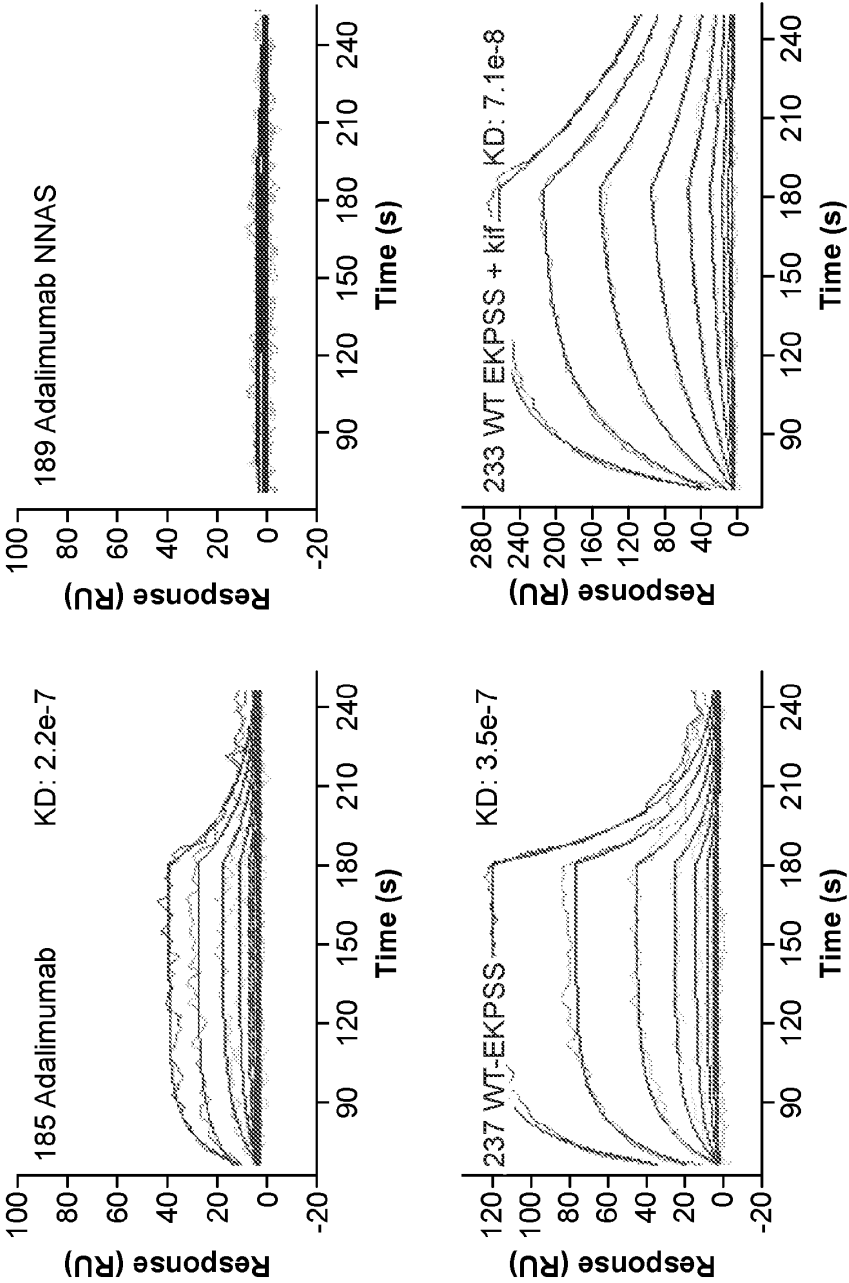


FIG. 3

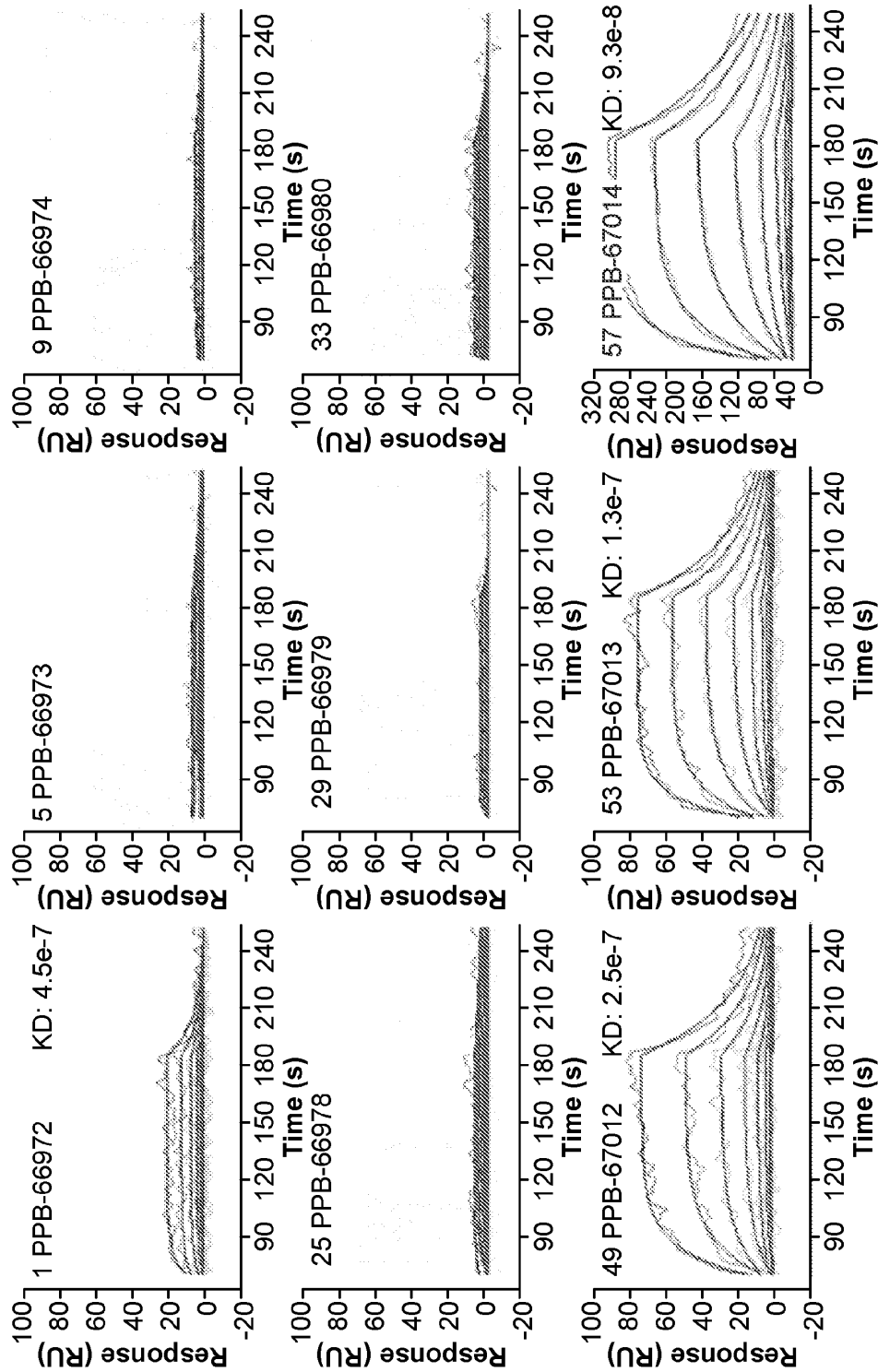


FIG. 4

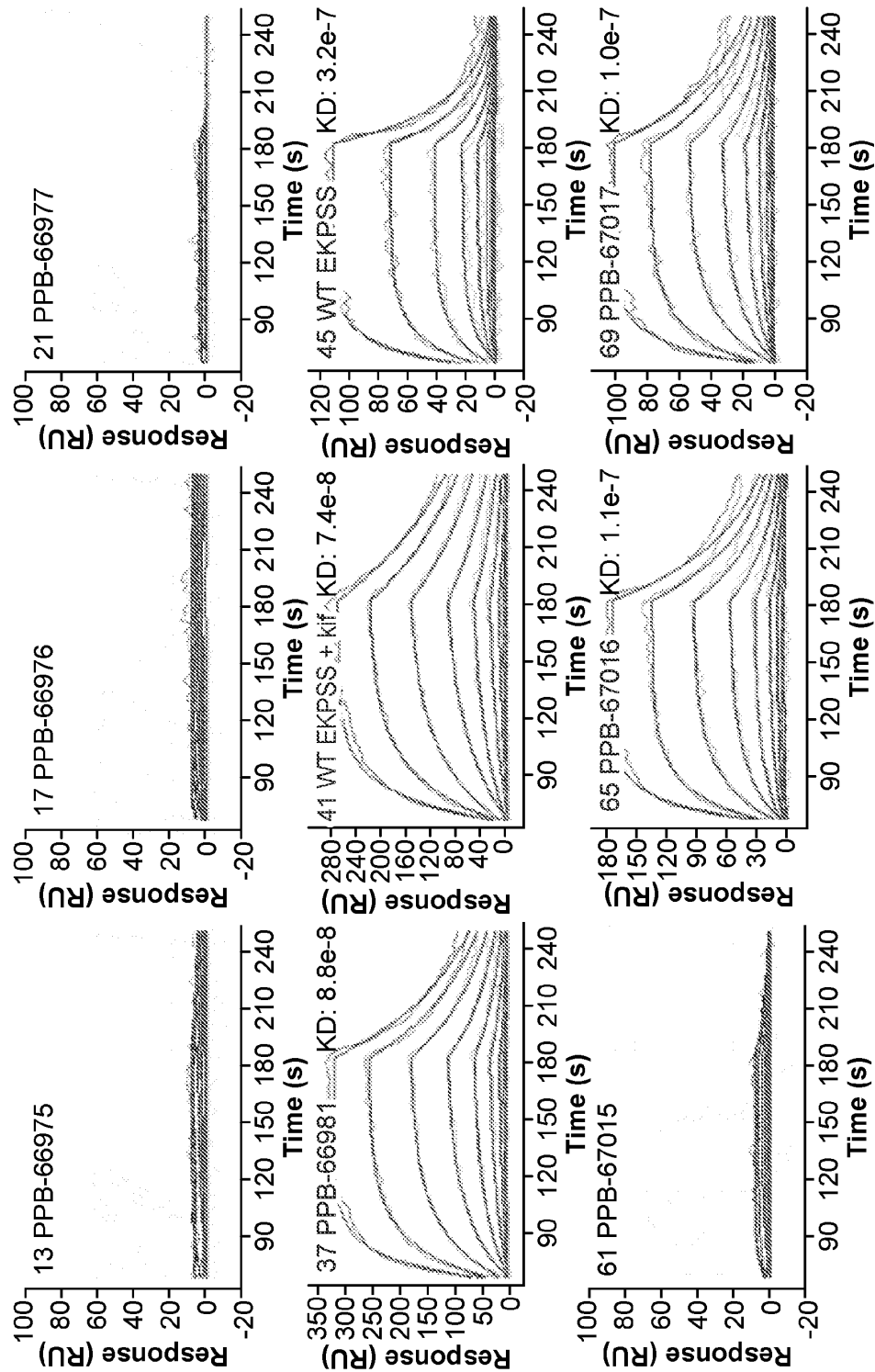


FIG. 4 (Cont. 1)

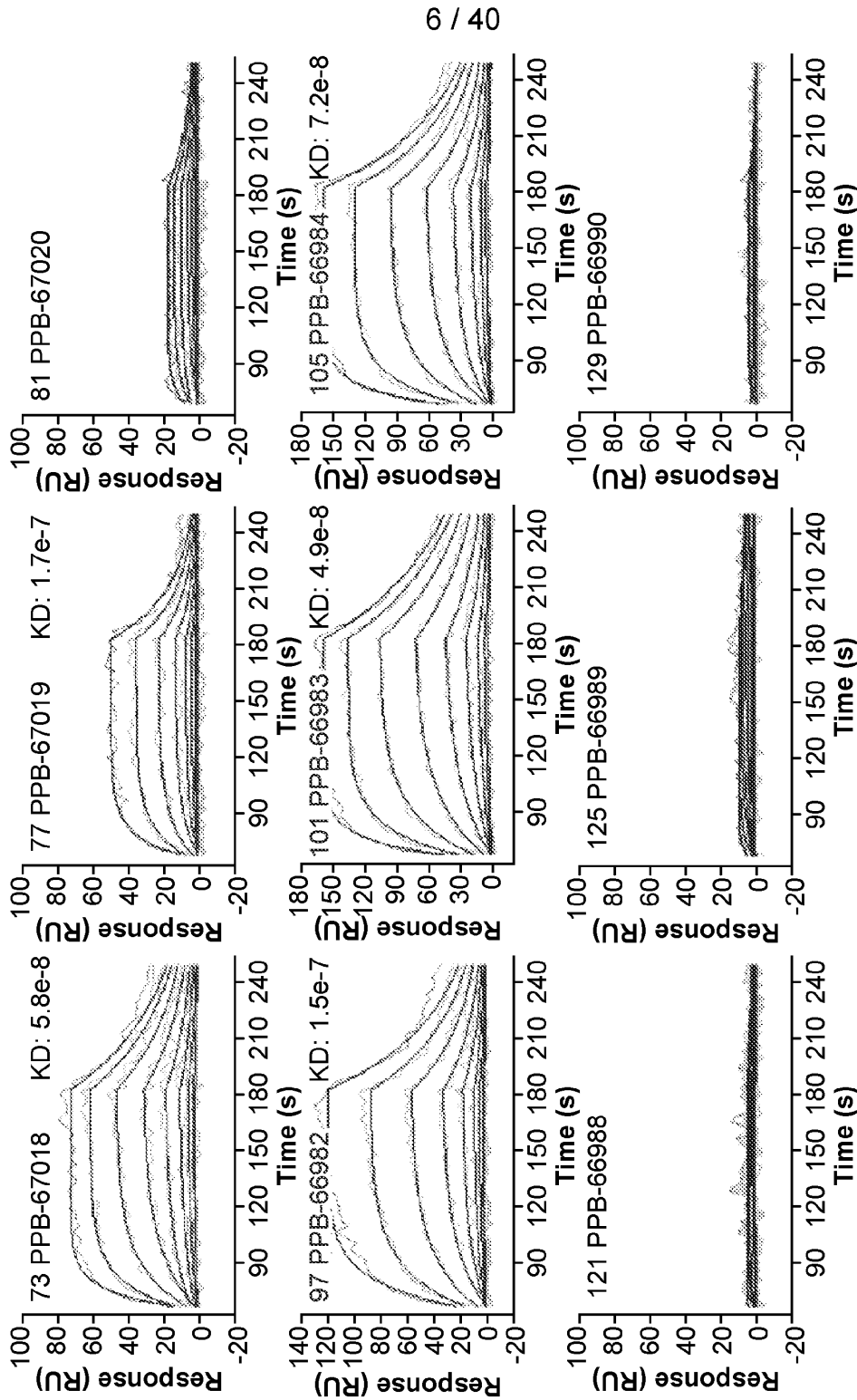


FIG. 4 (Cont. 2)

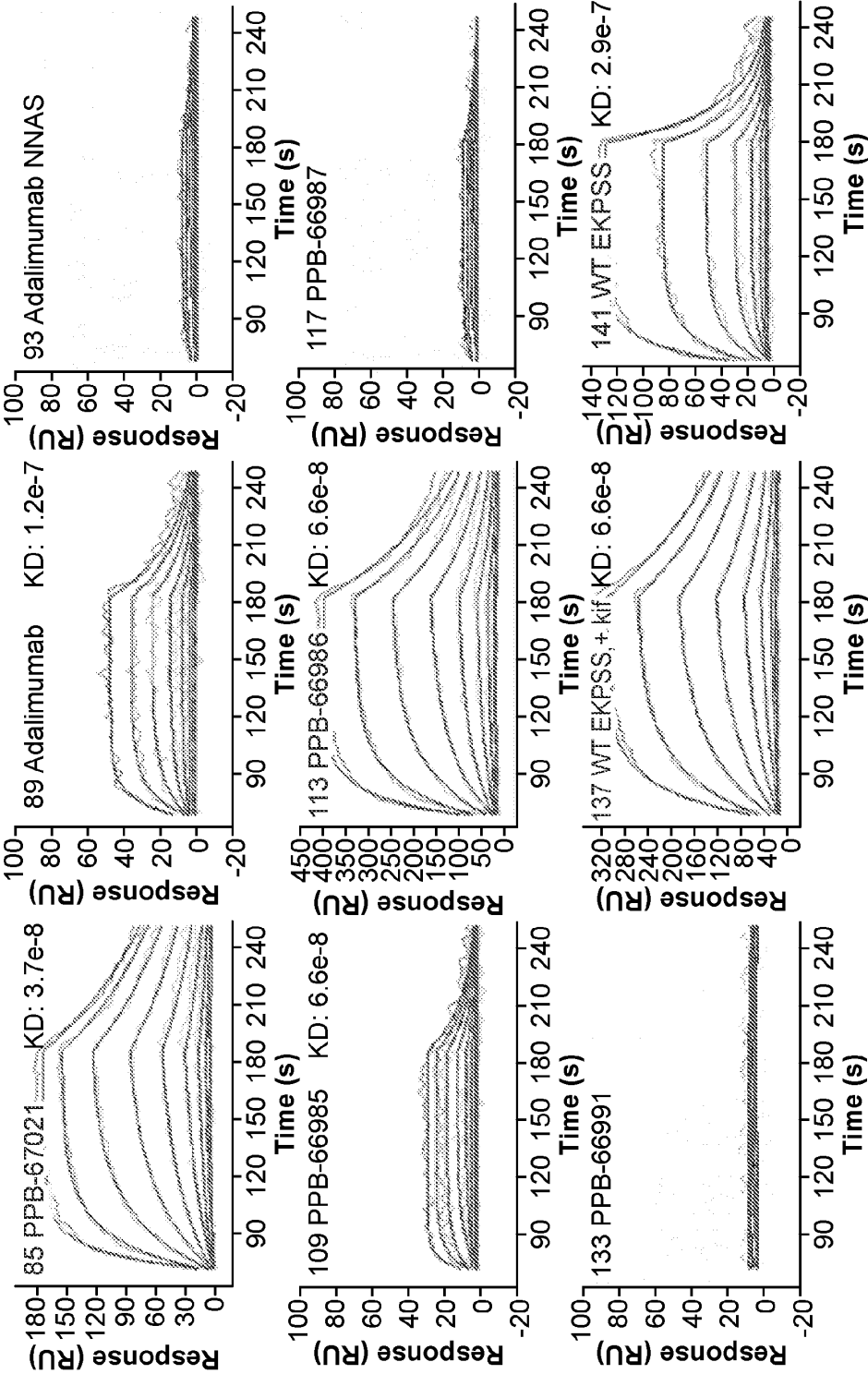


FIG. 4 (Cont. 3)

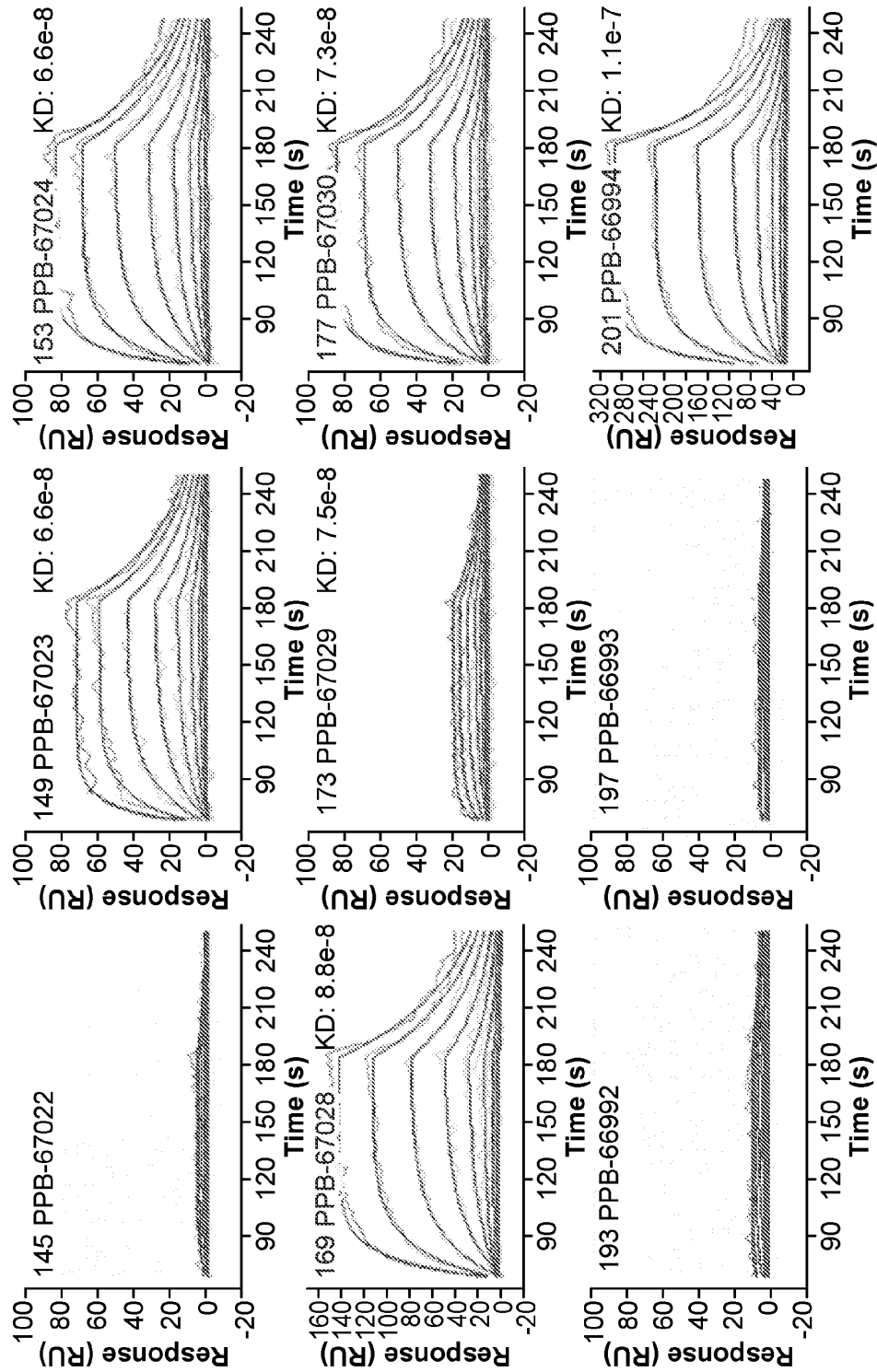


FIG. 4 (Cont. 4)

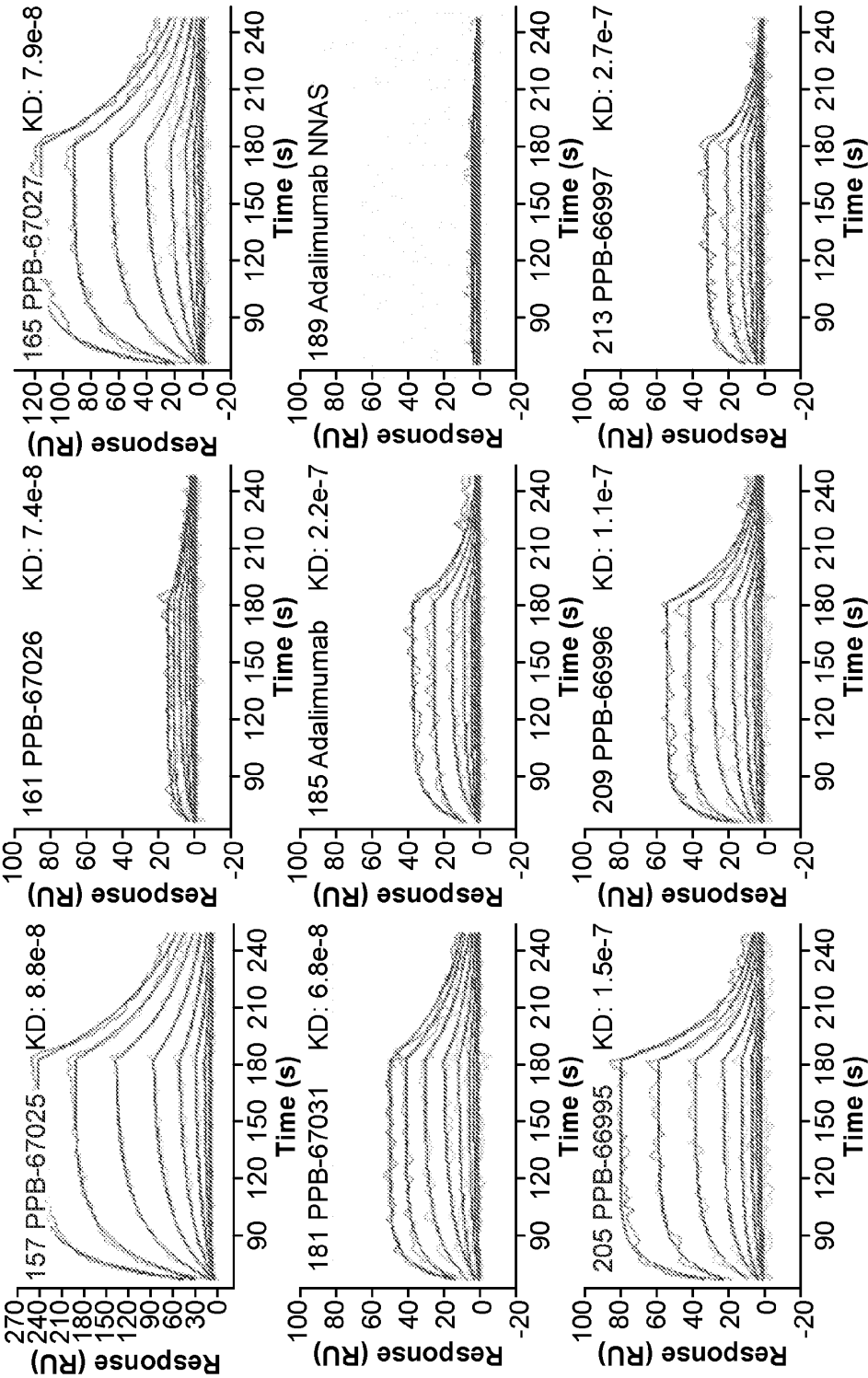


FIG. 4 (Cont. 5)

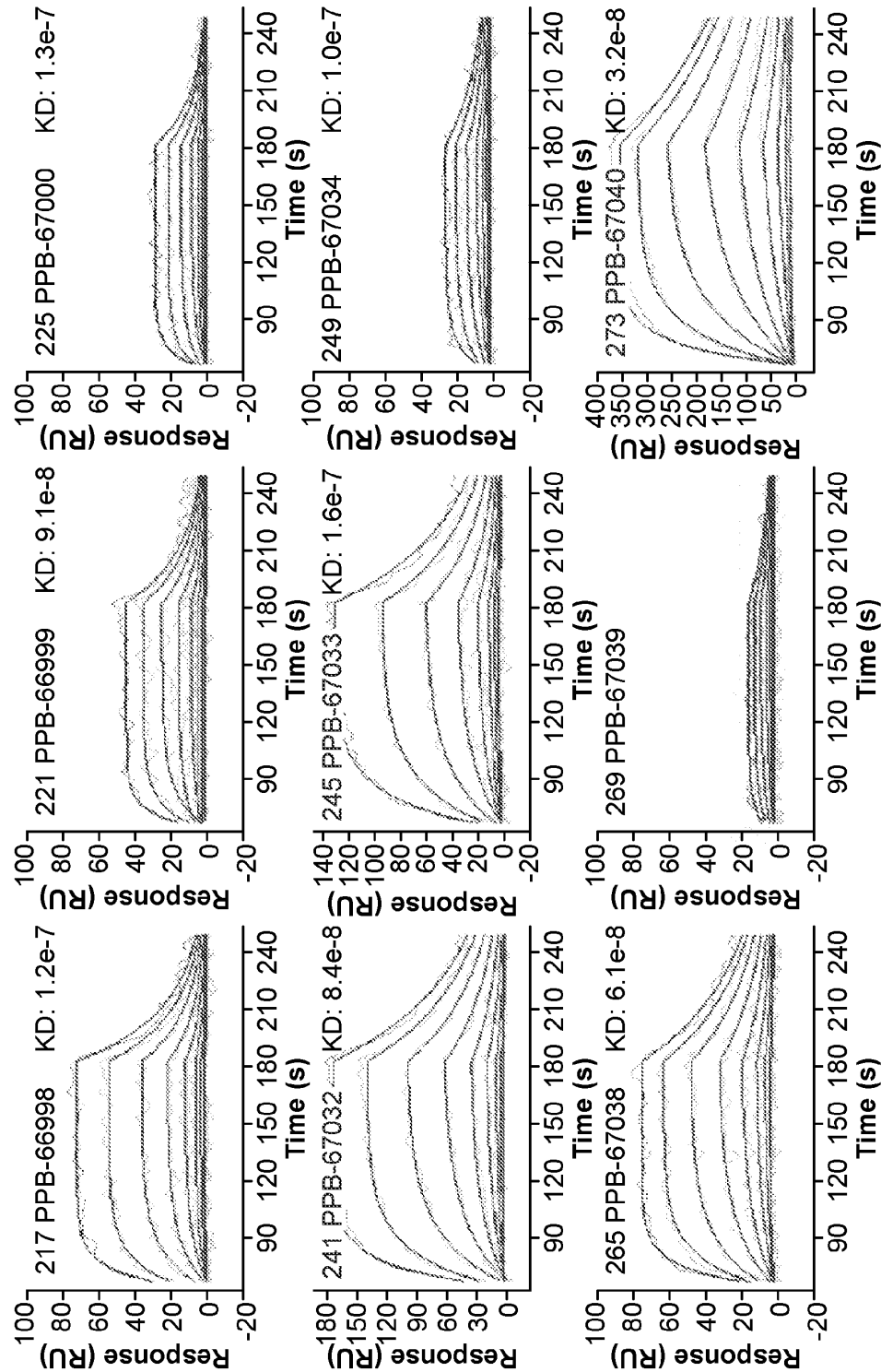


FIG. 4 (Cont. 6)

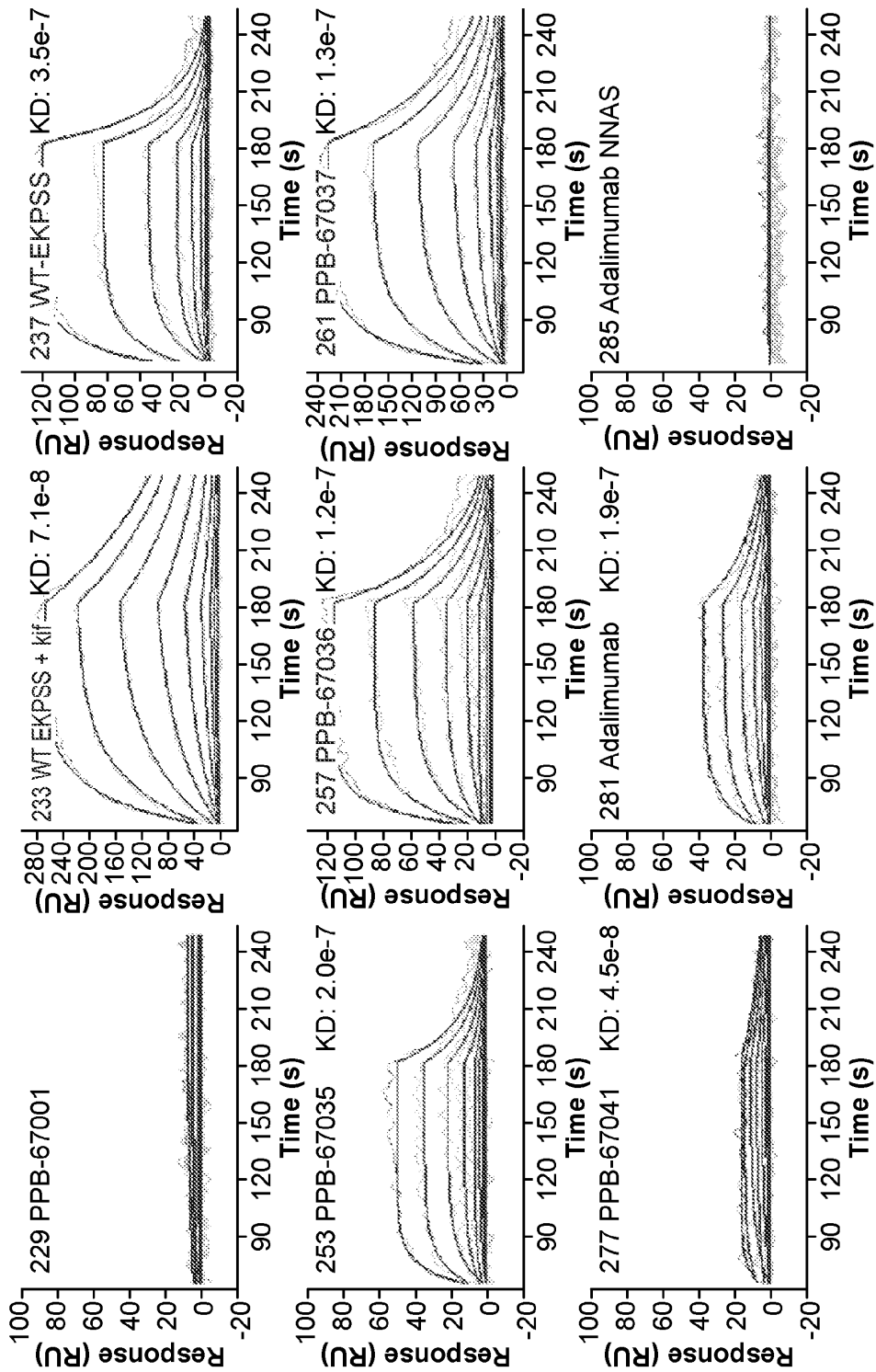


FIG. 4 (Cont. 7)

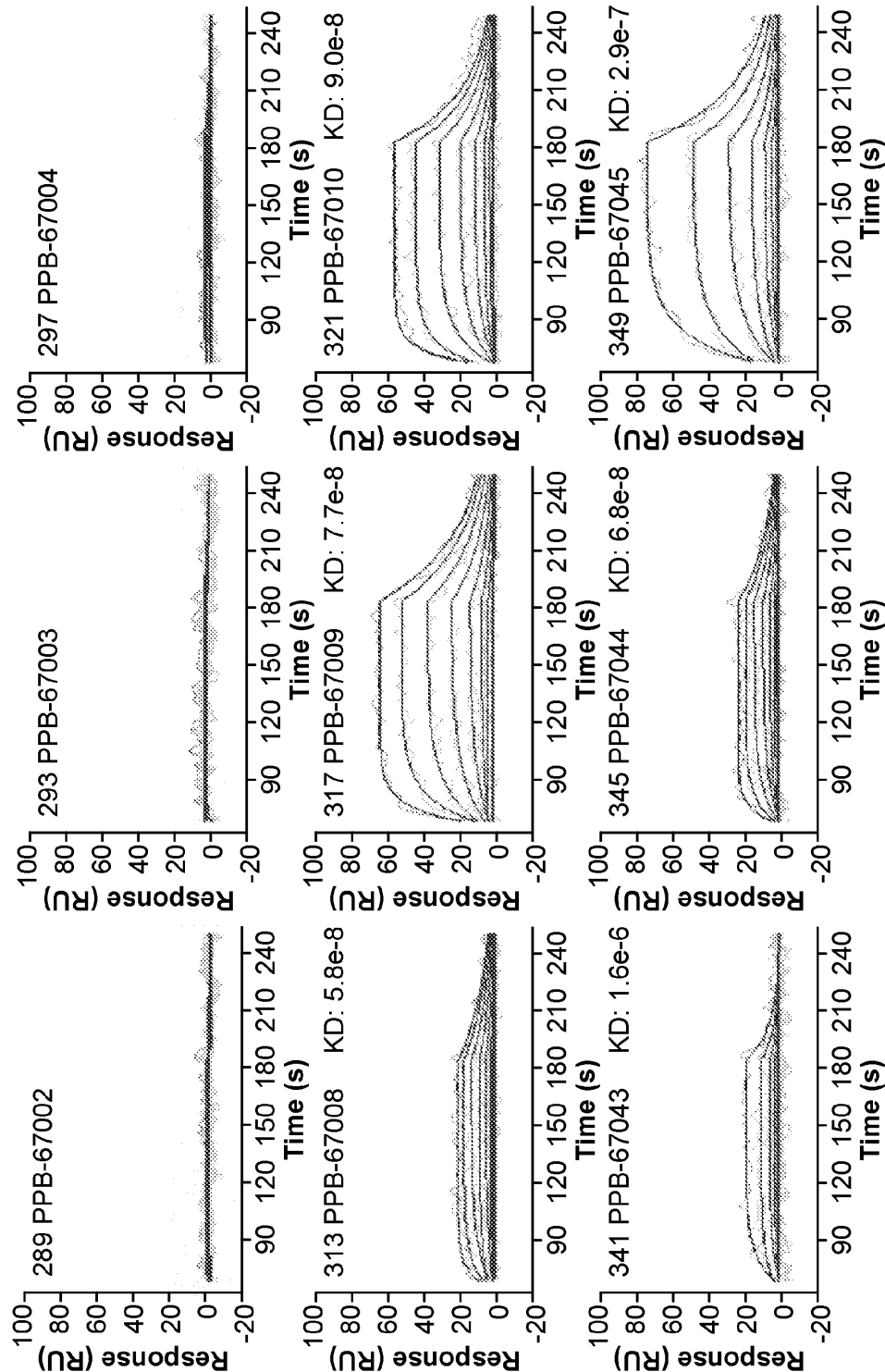


FIG. 4 (Cont. 8)

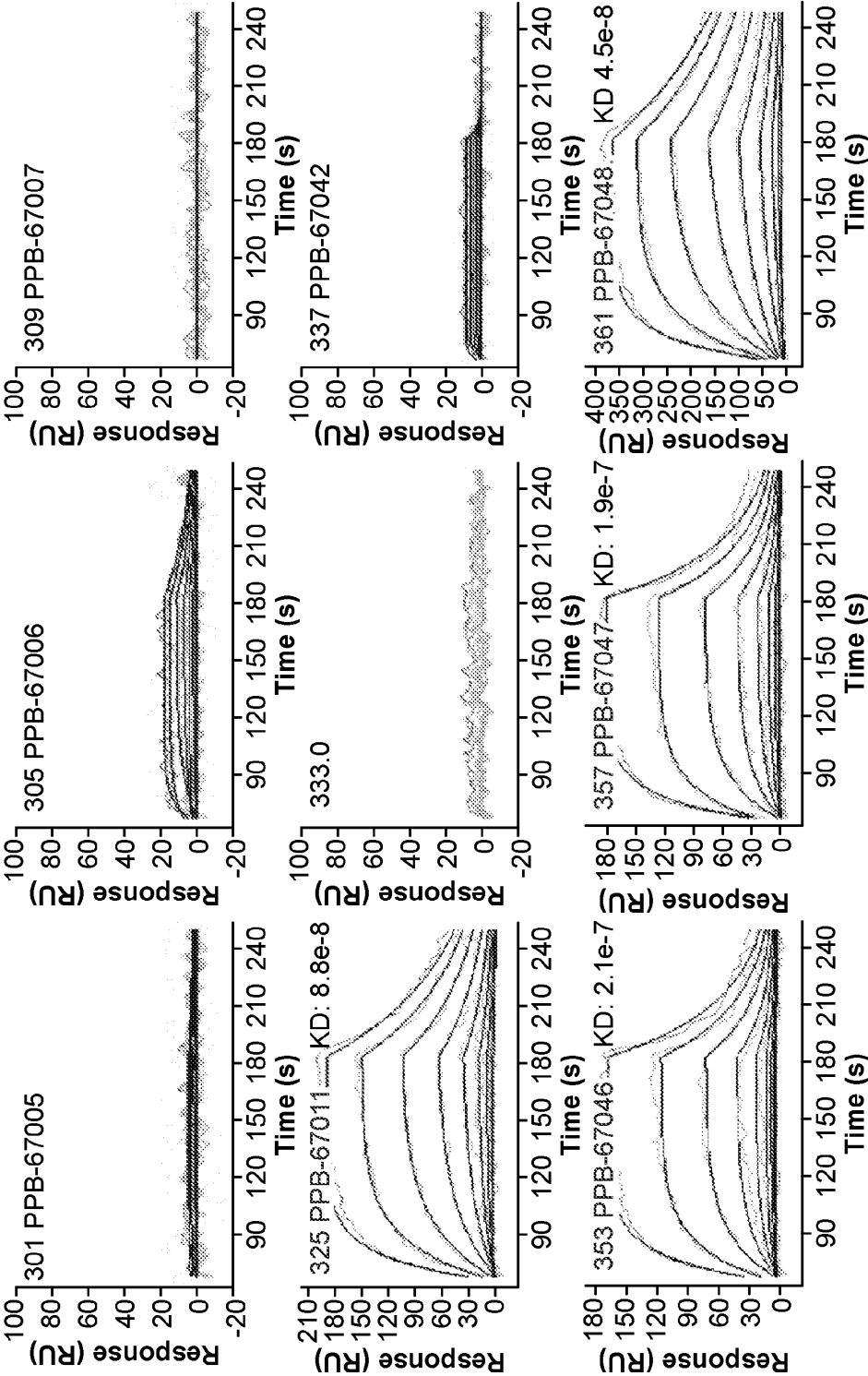


FIG. 4 (Cont. 9)

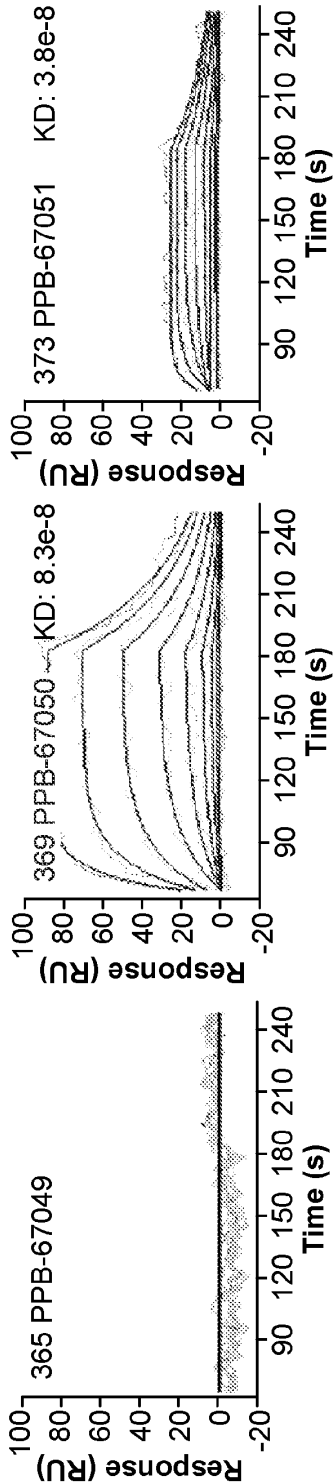


FIG. 4 (Cont. 10)

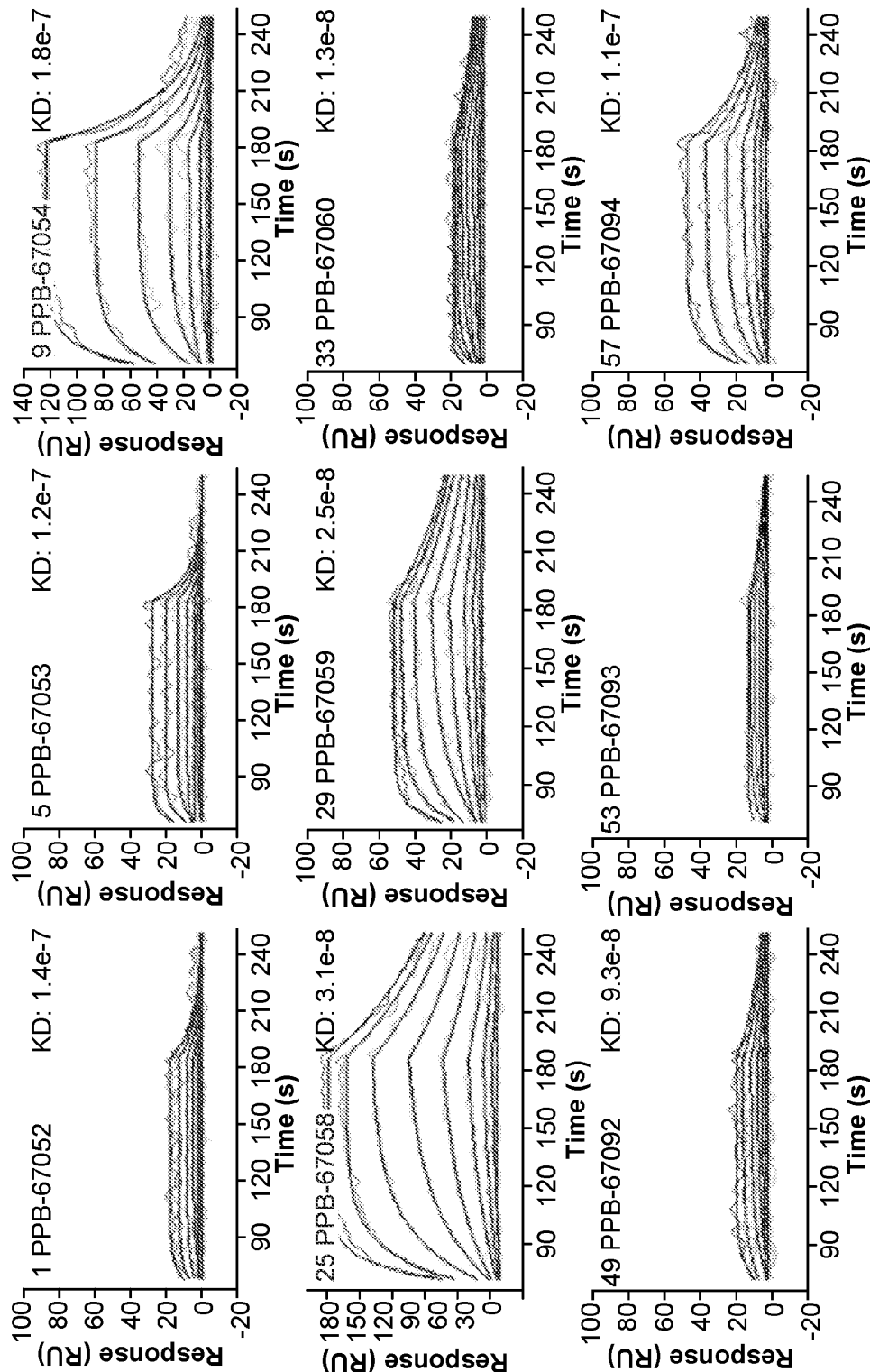


FIG. 5

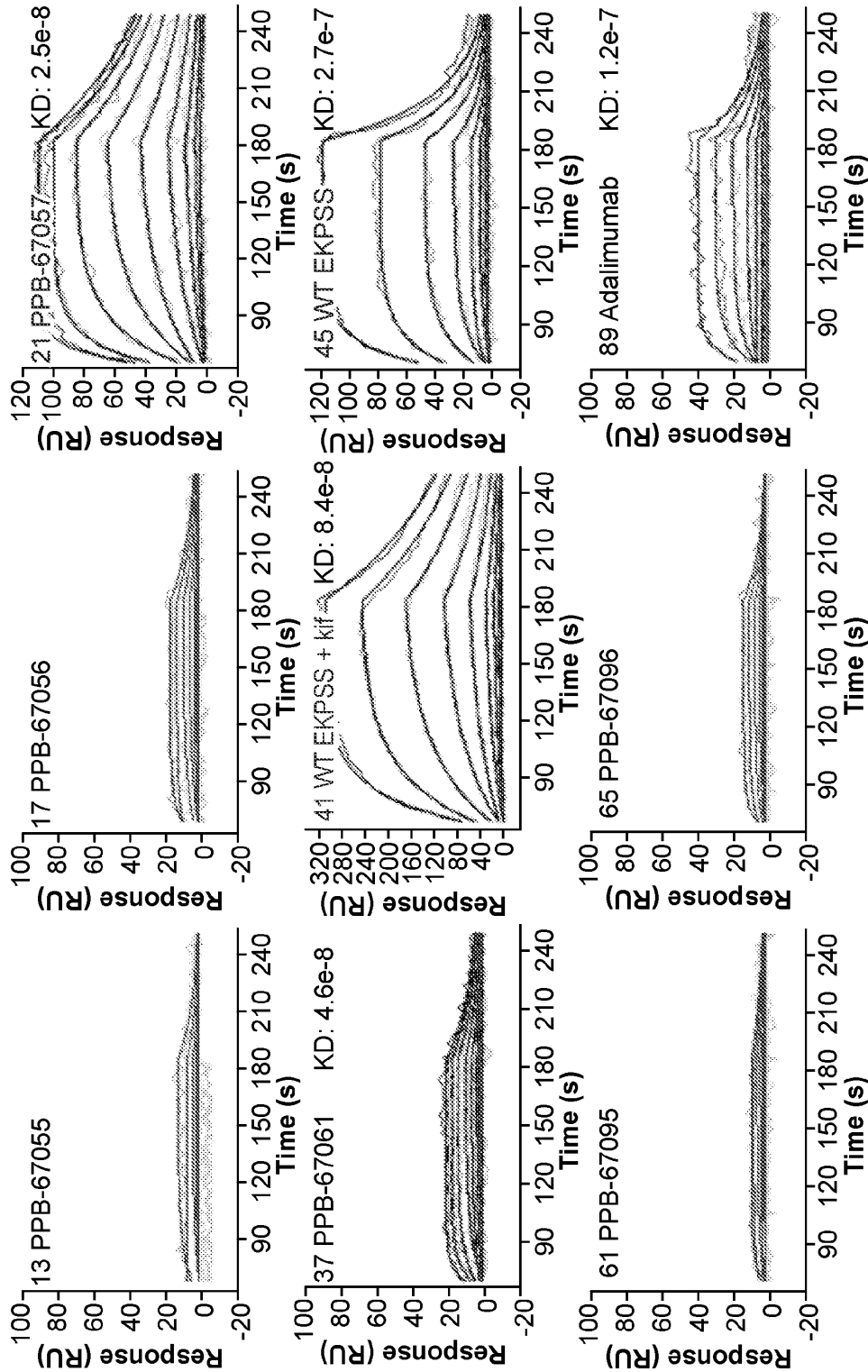


FIG. 5 (Cont. 1)

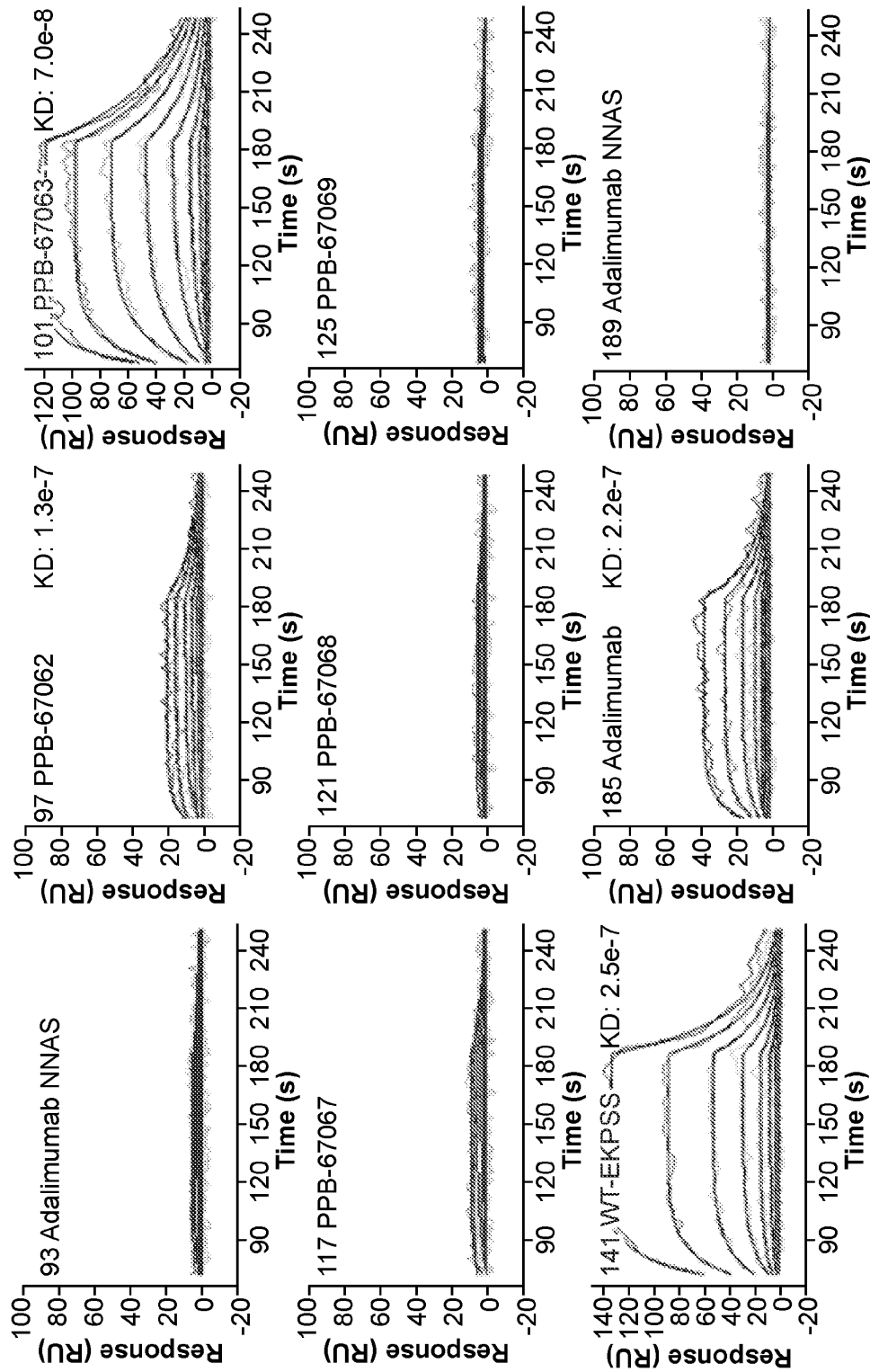


FIG. 5 (Cont. 2)

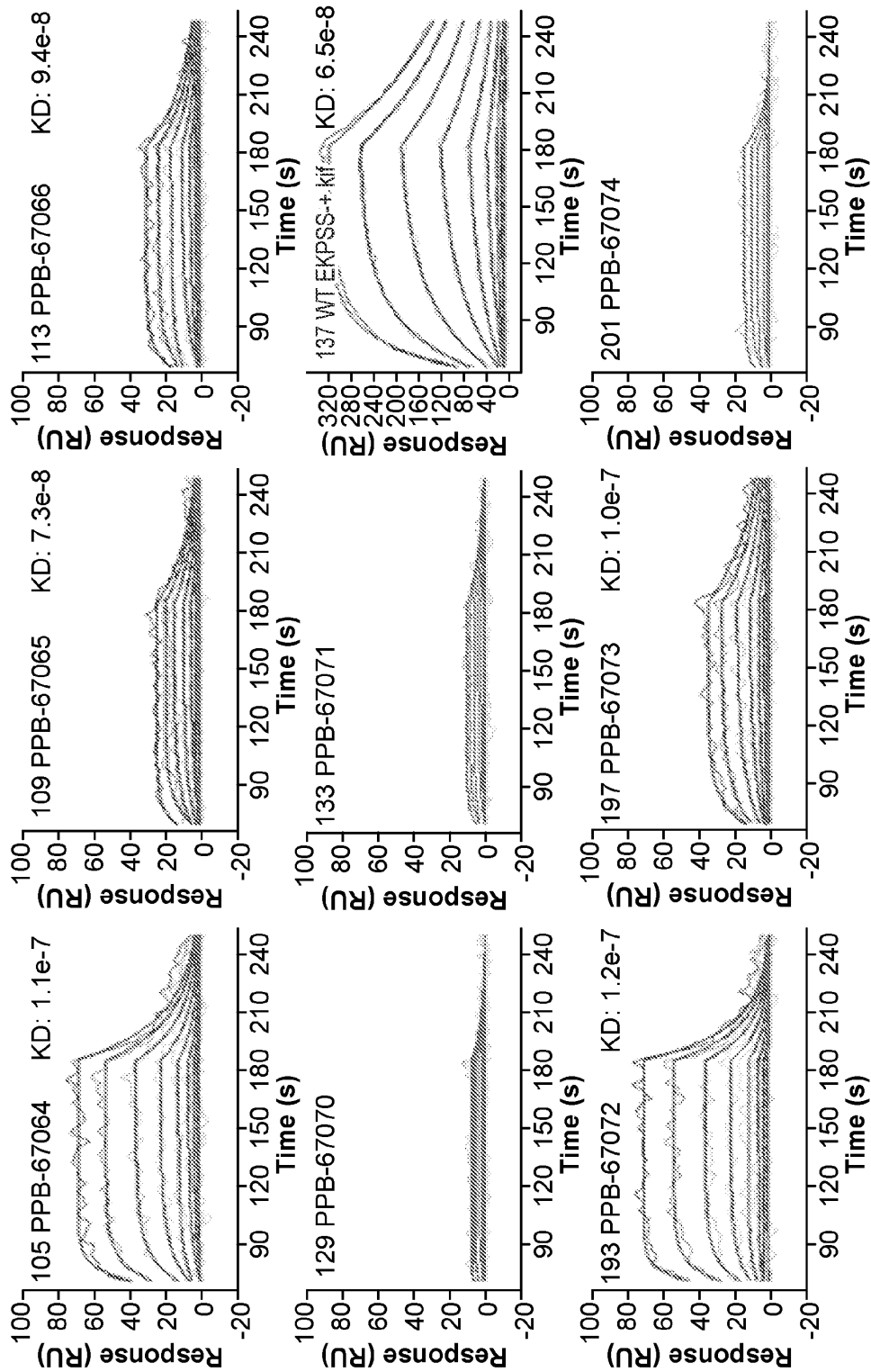


FIG. 5 (Cont. 3)

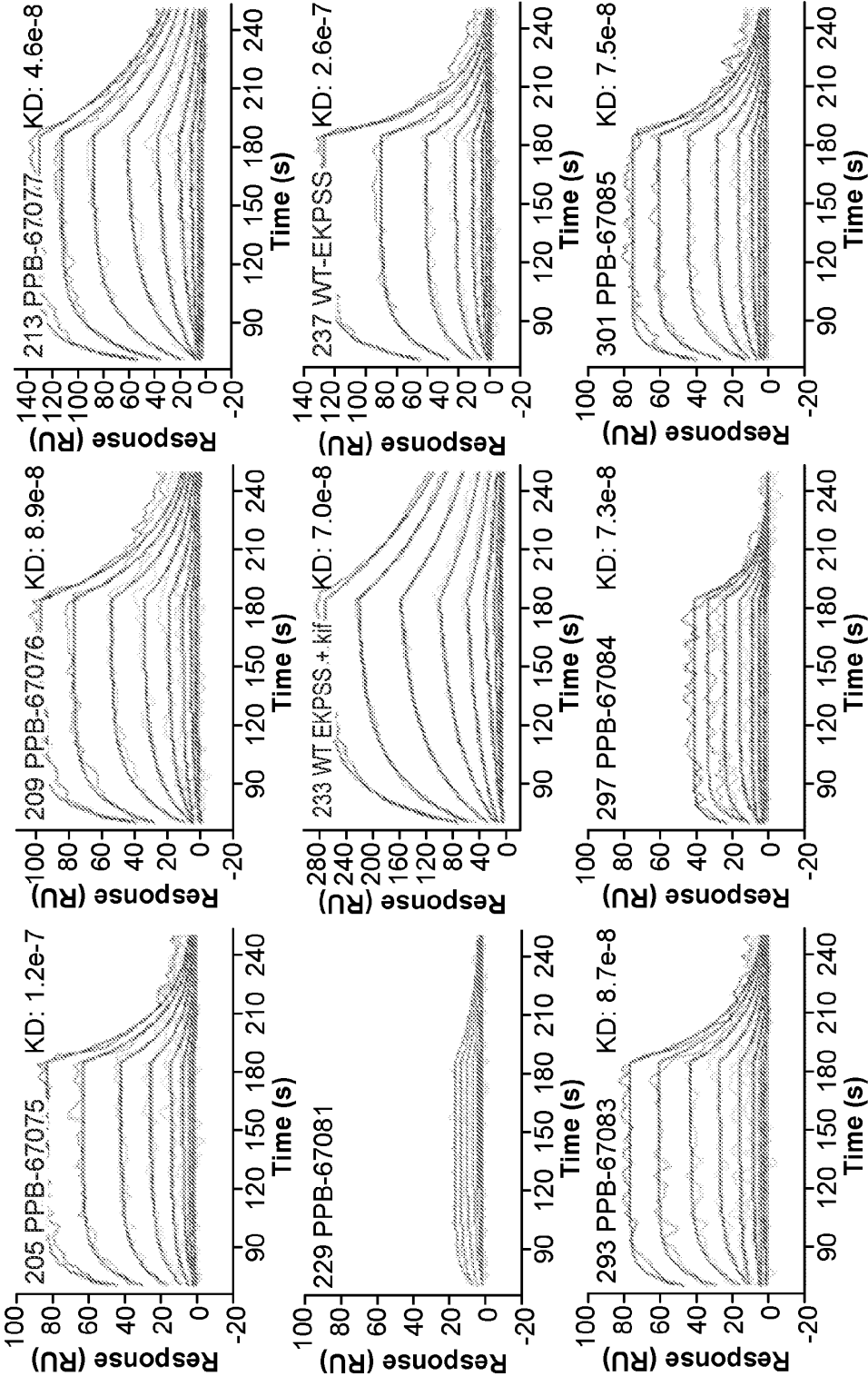


FIG. 5 (Cont. 4)

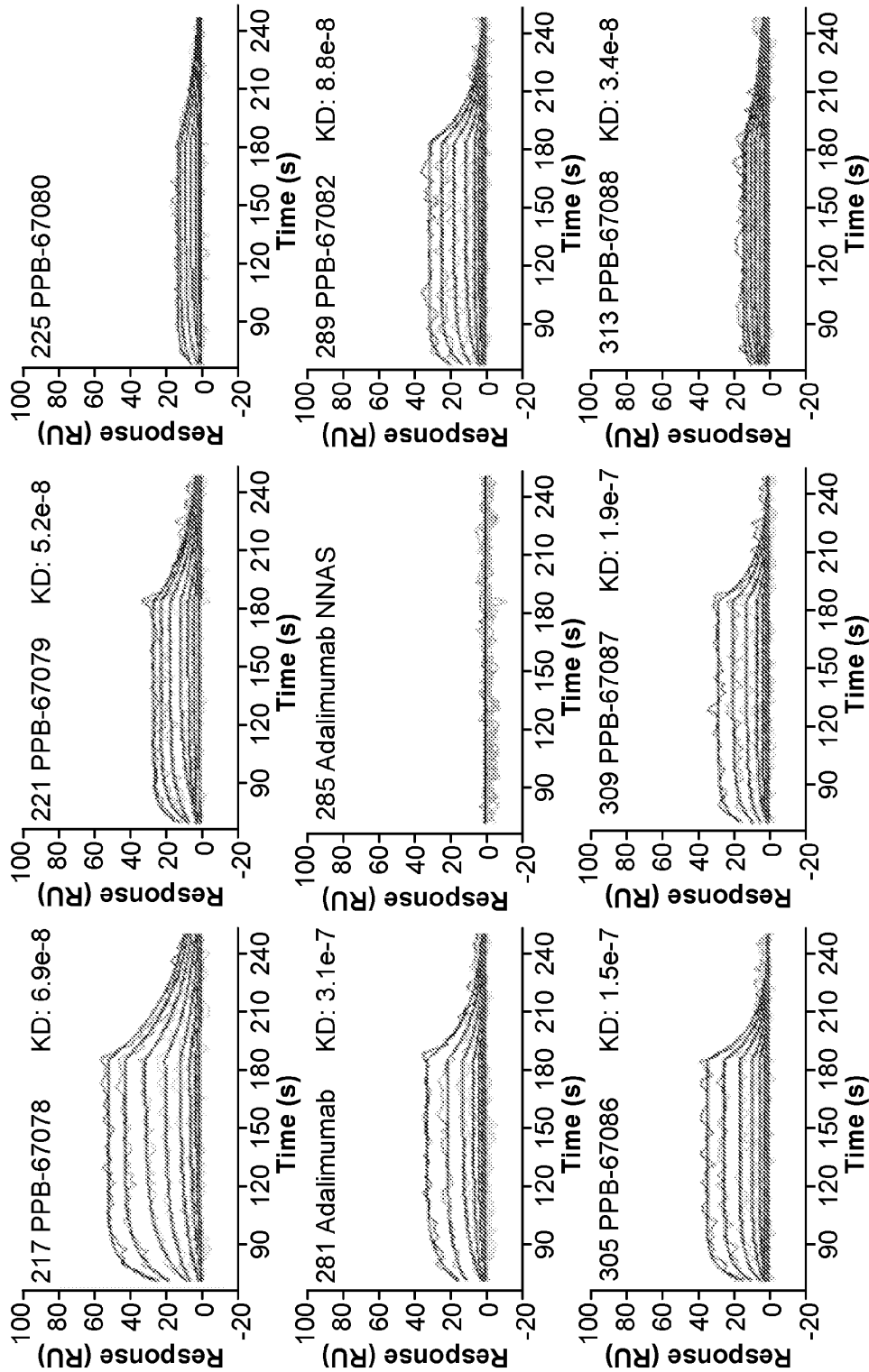


FIG. 5 (Cont. 5)

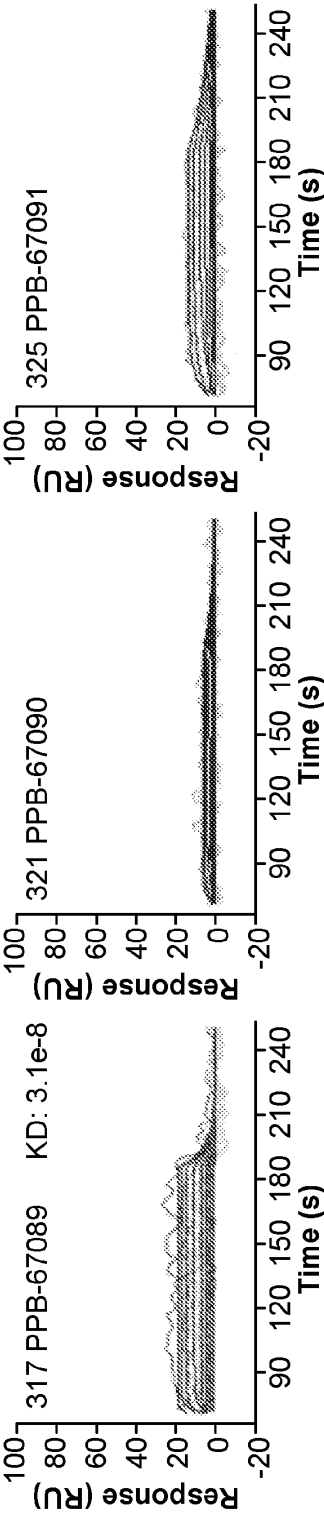
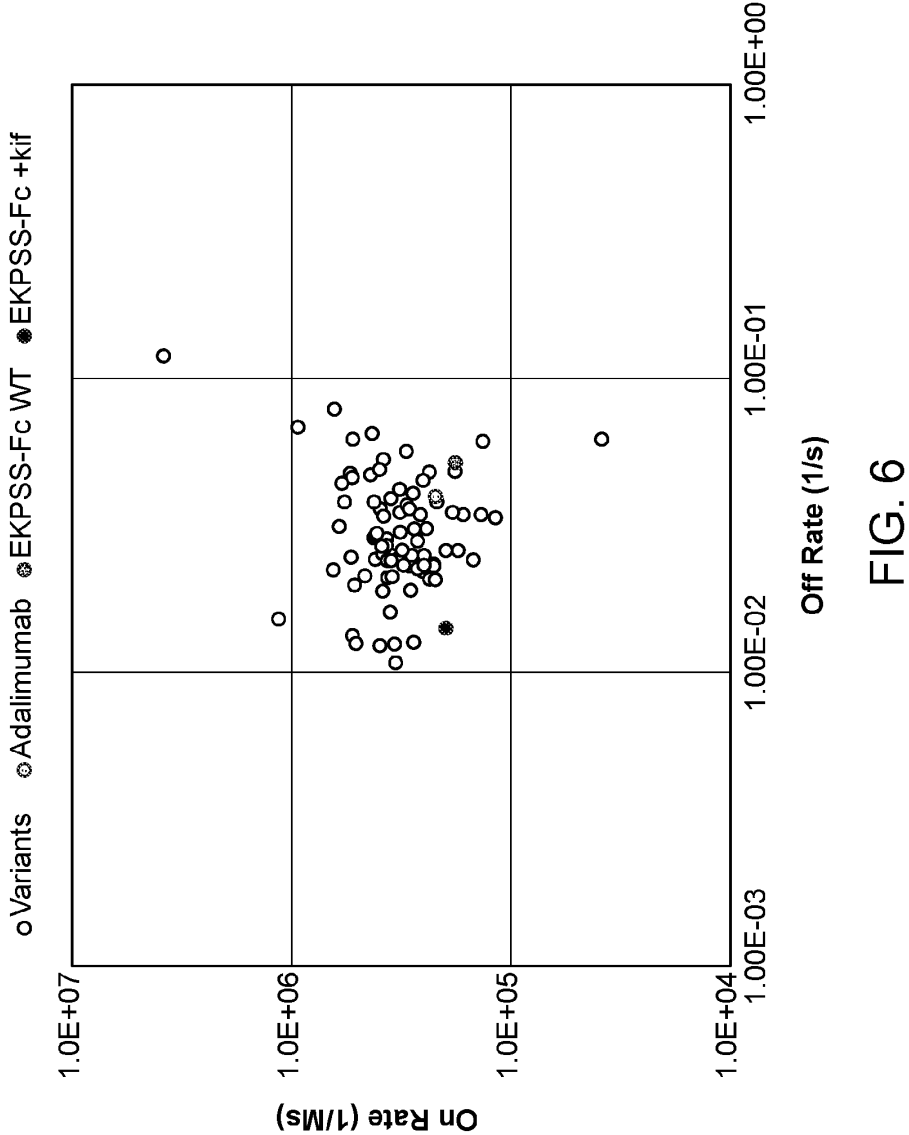


FIG. 5 (Cont. 6)



Category	Number
No Binding	16
No Binding (No Capture)	27
Weaker than WT	1
WT-like	13
>2-fold WT	68

FIG. 7

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PPB	TPP	Mutations	Total Amount	Titer	%Purity
PPB-67057	TPP-57418	H268D_L251Q_Y373W_S298A	0.82	27	96.9
PPB-67058	TPP-57419	H268D_L251Q_S298A	0.91	30	97.9
PPB-67040	TPP-57401	H268D_L251I_A330F_S298A	0.35	12	99.3
PPB-67048	TPP-57409	H268D_A339T_S298A	2.12	71	100
PPB-67018	TPP-57379	H268E_L314V_L251A_A330M	0.4	13	97.8
PPB-67038	TPP-57399	H268D_S267D_L251I_A3309T	4.72	157	100
PPB-66986	TPP-57347	H268D_A330Y_A339T_Y373W	2.83	94	96.8
PPB-67063	TPP-57424	H268D_L251Q_Y373W	0.96	32	95.7
PPB-67050	TPP-57411	H268D_L314T	0.69	23	99.9
PPB-67032	TPP-57393	H268D_L251F_L314V	0.46	15	100
PPB-66981	TPP-57342	H268D_A330Y_D376V	3.01	100	96.2
PPB-67014	TPP-57375	S298A_A330Y_A339T_Y373W	2.27	76	99.8
PPB-67016	TPP-57377	H268D_L251A	1.8	60	100
PPB-66994	TPP-57355	S267D_A330Y_A339T	6.36	212	98.8
PPB-66998	TPP-57359	S267D_A330Y_Y373W	12.21	407	98.4
PPB-67037	TPP-57398	H268E_L251H_A330F	2.4	80	98.2

FIG. 8A

25 / 40

Zaverage	Plate	ROI	Capture	ka	kd	KD2	Rmax	Ratio vs. WT
4.37	2	21	588	5.29E+05	1.33E-02	2.52E-08	125	11.5
4.49	2	25	1385	3.96E+05	1.23E-02	3.11E-08	202	9.3
2.71	1	273	2553	3.35E+05	1.08E-02	3.21E-08	410	9.1
6.07	1	361	2578	2.78E+05	1.26E-02	4.54E-08	437	6.4
3.34	1	73	1002	3.65E+05	2.10E-02	5.76E-08	89	5.1
6.76	1	265	144	3.48E+05	2.12E-02	6.07E-08	92	4.8
0.04	1	113	2822	2.87E+05	1.90E-02	6.63E-08	505	4.4
4.61	2	101	1024	4.16E+05	2.92E-02	7.02E-08	154	4.1
3.93	1	369	280	3.14E+05	2.60E-02	8.30E-08	124	3.5
3.79	1	241	1642	2.67E+05	2.25E-02	8.44E-08	236	3.4
6.67	1	37	1856	2.51E+05	2.20E-02	8.76E-08	447	3.3
6.21	1	57	2856	2.21E+05	2.06E-02	9.33E-08	403	3.1
5.75	1	65	1497	2.67E+05	2.80E-02	1.05E-07	252	2.8
6.58	1	201	2441	3.20E+05	3.50E-02	1.09E-07	425	2.7
7.28	1	217	314	2.98E+05	3.71E-02	1.24E-07	109	2.3
6.14	1	261	2246	1.98E+05	2.60E-02	1.31E-07	348	2.2

FIG. 8A (Cont.)

Attribute	Criteria
SPR Capture Level	>100 RU
SPR Rmax	>30 RU
SPR KD Ratio to WT EKPSS-Fc	>2-fold
Production Titer	>10 mg/L
aSEC % Purity	>95%
DLS Z average	<10 (i.e. not aggregated)

FIG. 8B

CH1				CH2			
IGHG1 amino acid translation	IMGT exon numbering	Eu numbering	Kabat numbering	IGHG1 amino acid translation	IMGT exon numbering	Eu numbering	Kabat numbering
		(98 aa)				(110 aa)	
		118-215				231-340	
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	(A)	1	231	244
-	-	-	-	P	2	232	245
(A)	1	118	114	E	3	233	246
S	2	119	115	L	4	234	247
T	3	120	116	L	5	235	248
K	4	121	117	G	6	236	249
G	5	122	118	G	7	237	250
P	6	123	119	P	8	238	251
S	7	124	120	S	9	239	252
V	8	125	121	V	10	240	253
F	9	126	122	F	11	241	254

FIG. 9

FIG. 9
(Cont. 1)

P	10	127	123	L	12	242	255
L	11	128	124	F	13	243	256
A	12	129	125	P	14	244	257
P	13	130	126	P	15	245	258
S	14	131	127	K	16	246	259
S	15	132	128	P	17	247	260
K	16	133	129	K	18	248	261
S	17	134	130	D	19	249	262
T	18	135	133	T	20	250	263
S	19	136	134	L	21	251	264
-	-	-	-	M	22	252	265
-	-	-	-	I	23	253	266
-	-	-	-	-	-	-	-
G	20	137	135	S	24	254	267
G	21	138	136	R	25	255	268
T	22	139	137	T	26	256	269
A	23	140	138	P	27	257	270
A	24	141	139	E	28	258	271
L	25	142	140	V	29	259	272
G	26	143	141	T	30	260	273
C	27	144	142	C	31	261	274

FIG. 9
(Cont. 2)

L	28	145	143	V	32	262	275
V	29	146	144	V	33	263	276
K	30	147	145	V	34	264	277
D	31	148	146	D	35	265	278
Y	32	149	147	V	36	266	279
F	33	150	148	S	37	267	280
P	34	151	149	H	38	268	281
-	-	-	-	E	39	269	282
-	-	-	-	D	40	270	283
E	35	152	150	P	41	271	284
P	36	153	151	E	42	272	285
V	37	154	152	V	43	273	286
T	38	155	153	K	44	274	287
V	39	156	154	F	45	275	288
S	40	157	156	N	46	276	289
W	41	158	157	W	47	277	290
N	42	159	162	Y	48	278	291
S	43	160	163	V	49	279	292
G	44	161	164	D	50	280	295
A	45	162	165	G	51	281	296
L	46	163	166	V	52	282	299

T	47	164	167	E	53	283	300
S	48	165	168	V	54	284	301
-	-	-	-	H	55	285	302
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
G	49	166	169	N	56	286	303
V	50	167	171	A	57	287	304
H	51	168	172	K	58	288	305
T	52	169	173	T	59	289	306
F	53	170	174	K	60	290	307
P	54	171	175	P	61	291	308
A	55	172	176	R	62	292	309
V	56	173	177	E	63	293	310
L	57	174	178	E	64	294	311
Q	58	175	179	Q	65	295	312
S	59	176	180	Y	66	296	313
S	60	177	182	N	67	297	314
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

FIG. 9
(Cont. 3)

FIG. 9
(Cont. 4)

-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
G	61	178	183	S	S	68	298	317	
L	62	179	184	T	T	69	299	318	
Y	63	180	185	Y	Y	70	300	319	
S	64	181	186	R	R	71	301	320	
L	65	182	187	V	V	72	302	321	
S	66	183	188	V	V	73	303	322	
S	67	184	189	S	S	74	304	323	
V	68	185	190	V	V	75	305	324	
V	69	186	191	L	L	76	306	325	
T	70	187	192	T	T	77	307	326	
V	71	188	193	V	V	78	308	327	
P	72	189	194	L	L	79	309	328	
S	73	190	195	H	H	80	310	329	
S	74	191	196	Q	Q	81	311	330	
S	75	192	197	D	D	82	312	331	
L	76	193	198	W	W	83	313	332	

-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	L	84	314	333
G	77	194	199	N	85	315	334		
T	78	195	200	G	86	316	335		
Q	79	196	203	K	87	317	336		
T	80	197	205	E	88	318	337		
Y	81	198	206	Y	89	319	338		
I	82	199	207	K	90	320	339		
C	83	200	208	C	91	321	340		
N	84	201	209	K	92	322	341		
V	85	202	210	V	93	323	342		
N	86	203	211	S	94	324	343		
H	87	204	212	N	95	325	344		
K	88	205	213	K	96	326	345		
P	89	206	214	A	97	327	346		
-	-	-	-	-	-	-	-		
-	-	-	-	-	-	-	-		
S	90	207	215	L	98	328	347		
N	91	208	216	P	99	329	348		
T	92	209	217	A	100	330	349		

FIG. 9
(Cont. 5)

K	93	210	218	P	101	331	350
V	94	211	219	I	102	332	351
D	95	212	220	E	103	333	352
K	96	213	221	K	104	334	353
K	97	214	222	T	105	335	354
V	98	215	223	I	106	336	355
-	-	-	-	S	107	337	357
-	-	-	-	K	108	338	358
-	-	-	-	A	109	339	359
-	-	-	-	K	110	340	360
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

FIG. 9 (Cont. 6)

CH3			
IGHG1 amino acid	IMGT exon numbering	Eu numbering	Kabat numbering

translation	1-107	(107 aa)	
		341-446	
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
(G)	1	341	361
Q	2	342	363
P	3	343	364
R	4	344	365
E	5	345	366
P	6	346	367
Q	7	347	368
V	8	348	369
Y	9	349	370
T	10	350	371
L	11	351	372
P	12	352	373
P	13	353	374
S	14	354	375
R	15	355	376

FIG. 9 (Cont. 7)

D	16	356	377
E	17	357	378
L	18	358	381
T	19	359	382
-	-	-	-
-	-	-	-
-	-	-	-
K	20	360	383
N	21	361	384
Q	22	362	385
V	23	363	386
S	24	364	387
L	25	365	388
T	26	366	389
C	27	367	390
L	28	368	391
V	29	369	392
K	30	370	393
G	31	371	394
F	32	372	395
Y	33	373	396

FIG. 9 (Cont. 8)

P	34	374	397
-	-	-	-
-	-	-	-
S	35	375	398
D	36	376	399
I	37	377	400
A	38	378	401
V	39	379	402
E	40	380	405
W	41	381	406
E	42	382	407
S	43	383	408
N	44	384	410
G	45	385	411
Q	46	386	414
P	47	387	415
E	48	388	416
N	49	389	417
-	-	-	-
-	-	-	-
-	-	-	-

FIG. 9 (Cont. 9)

N	50	390	418
Y	51	391	419
K	52	392	420
T	53	393	421
T	54	394	422
P	55	395	423
P	56	396	424
V	57	397	425
L	58	398	426
D	59	399	427
S	60	400	428
D	61	401	430
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
G	62	402	433
S	63	403	434

FIG. 9 (Cont. 10)

F	64	404	435
F	65	405	436
L	66	406	437
Y	67	407	438
S	68	408	439
K	69	409	440
L	70	410	441
T	71	411	442
V	72	412	443
D	73	413	444
K	74	414	445
S	75	415	446
R	76	416	447
W	77	417	448
-	-	-	-
-	-	-	-
Q	78	418	449
Q	79	419	450
G	80	420	451
N	81	421	452
V	82	422	453

FIG. 9 (Cont. 11)

F	83	423	454
S	84	424	455
C	85	425	456
S	86	426	457
V	87	427	458
M	88	428	459
H	89	429	460
E	90	430	461
A	91	431	462
-	-	-	-
L	92	432	463
H	93	433	464
N	94	434	465
H	95	435	466
Y	96	436	467
T	97	437	468
Q	98	438	469
K	99	439	470
S	100	440	471
L	101	441	472
S	102	442	473

FIG. 9 (Cont. 12)

L	103	443	474
S	104	444	475
P	105	445	476
-	-	-	-
-	-	-	-
-	-	-	-
G	CHS 106	446	477
K	CHS 107	447	478

FIG. 9 (Cont. 13)