ADNI UPenn Biomarker Core Laboratory

ADNI GO and ADNI 2 CSF report

$A\beta_{1-42}$, $t-Tau$ and $p-Tau_{181}$

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Contents

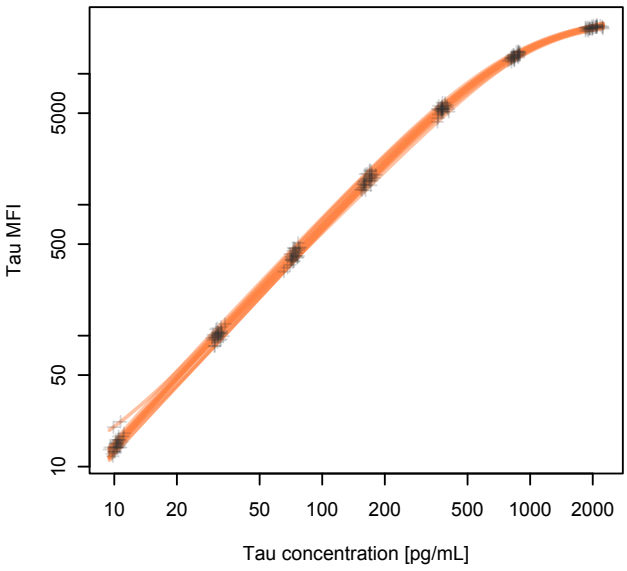
Part I
Analytical summary

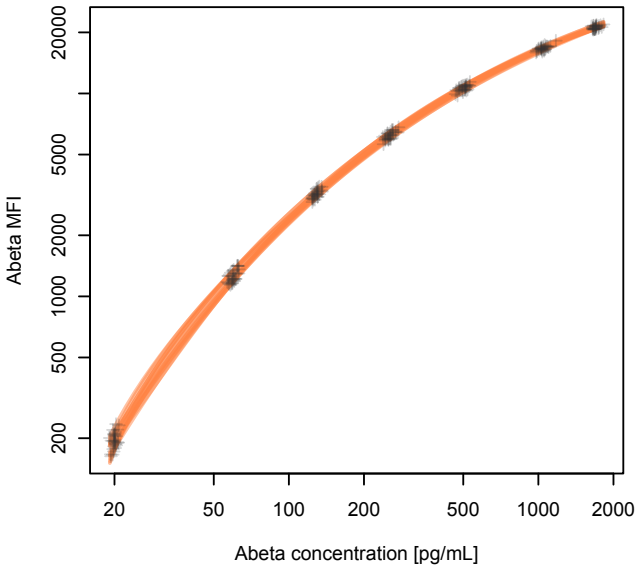
1 Summary of runs

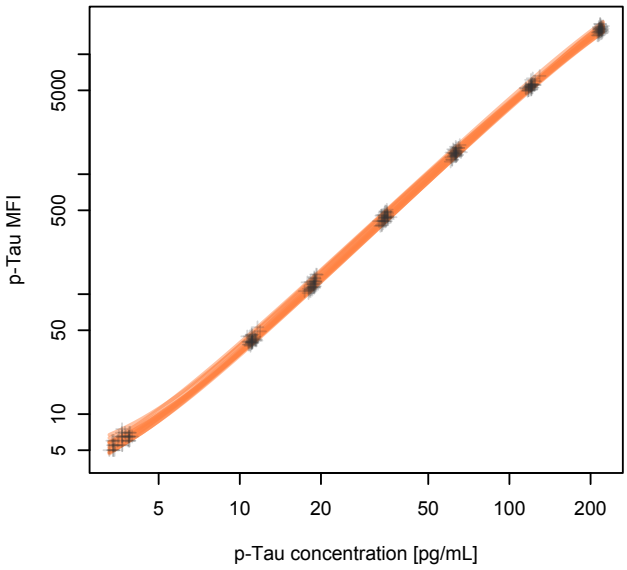
Run	Platform	S/N	Operator	Standards Lot #	Kit Lot #	Date
QCProgramPl1ADNIGO_2Pl1_02212012_20120221_111832	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-02-21
QCProgramPl2ADNIGO_2Pl2corrected_02222012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-02-22
QCProgramPl3ADNIGO_2Pl3_02232012_20120223_112128	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-02-23
QCprogramPl5ADNIGO_2Pl4corrected_02242012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-02-24
QCProgramPl6ADNIGO_2Pl5_02282012_20120228_115036	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-02-28
QCProgramFebADNIGO_2Pl6corrected_03012012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-01
ADNIGO_2Pl7_03022012_20120302_114516	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-02
ADNIGO_2Pl8corrected_03062012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-06
ADNIGO_2Pl9corrected_03072012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-07
ADNIGO_2Pl10_03082012_20120308_115523	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-08
ADNIGO_2Pl11corrected_03132012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-13
ADNIGO_2Pl12corrected_08092012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-09
ADNIGO_2Pl13corrected_03142012	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-14
ADNIGO_2Pl14_03152012_20120315_114251	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-15
ADNIGO_2Pl15_03162012_20120316_122245	xPONENT LX100/LX200	LX10010180403	Teresa Waligorska	S215382	K220093	2012-03-16

Corrections were done to the following plates:
Plate 1: failed Control B for Abeta - removed one replicate
Plate 4: CV over 15% for Standard 4 for Tau - removed one replicate
Plate 6: CV over 15% for Standard 7 for p-Tau - removed one replicate
Plate 8: CV over 15% for Standard 1 for Tau - removed one replicate
Plate 9: CV over 15% for Standard 1 for Abeta - removed one replicate
Plate 11: CV over 15% for Standard 7 for p-Tau - removed one replicate
Plate 12: CV over 15% for Standard 2 for p-Tau - removed one replicate
Plate 13: CV over 15% for Standard 2 for Abeta - removed one replicate

2 Calibration Curve-fitting Summary







Fitting equation:

$$MFI = a + \frac{b}{\left(1 + \left(\frac{concentration}{c}\right)^{d}\right)^{f}} \tag{1}$$

Coefficient	Abeta			Tau			p-Tau		
	Median	5% CI	95% CI	Median	5% CI	95% CI	Median	5% CI	95% CI
a	-77.8	-316.1	72.53	2.398	1.538	3.901	-1.607	-3.494	5.565
b	57109	37674	94878	103476	26856	1.295e+09	26944	24838	32248
c	7.866	0.02972	793.8	421	253.9	6779	893.9	793	1071
d	-0.4168	-0.8263	-0.3288	-1.54	-6.947	-0.3054	-1.878	-2.229	-1.336
f	10.84	1.501	142.5	1.394	0.3557	8.973	0.8871	0.7129	1.326

3 Replicate Precision Summary

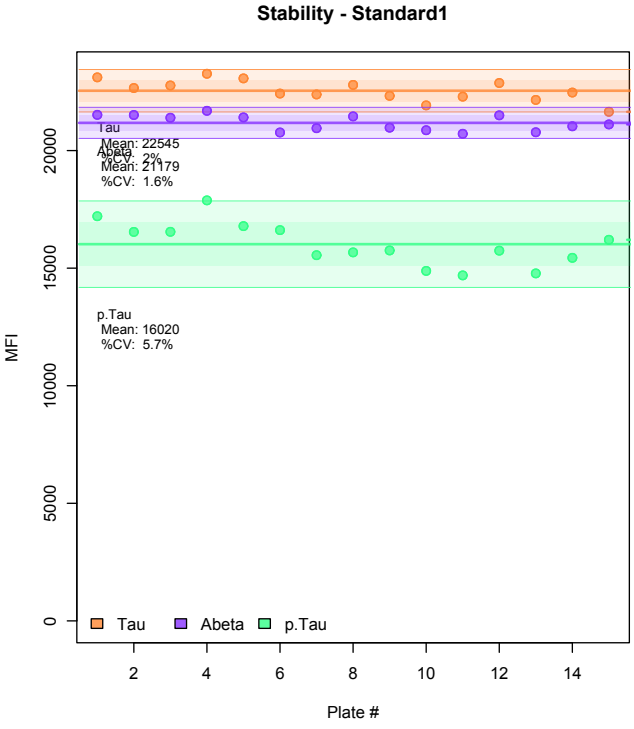
Standards	N	Mean [%]	Median [%]	Minimum [%]	Maximum [%]
Tau	105	4.408	3.822	0	12.96
Abeta	105	2.944	2.016	0	9.454
p-Tau	105	2.828	1.885	0	13.72

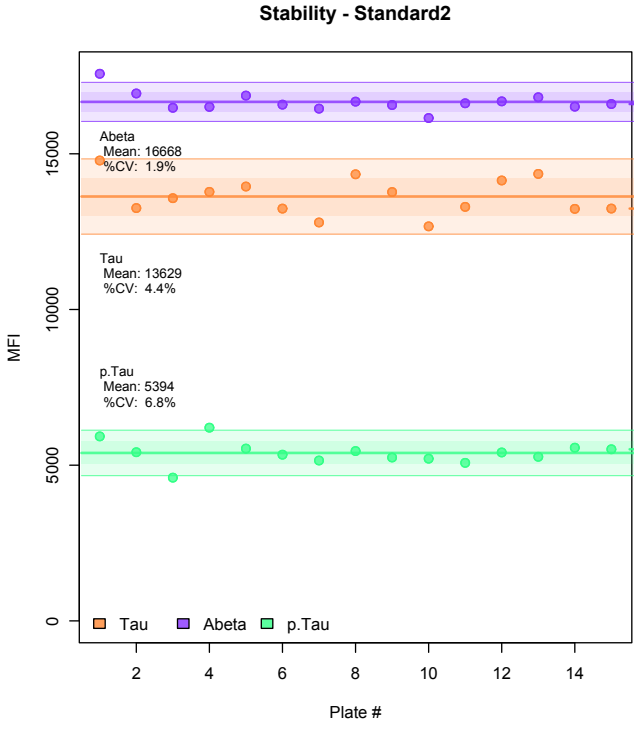
QCs	N	Mean [%]	Median [%]	Minimum [%]	Maximum [%]
Tau	30	3.904	2.436	0.0507	14.55
Abeta	30	1.858	1.59	0	4.866
p-Tau	30	2.348	2.138	0.3325	7.347

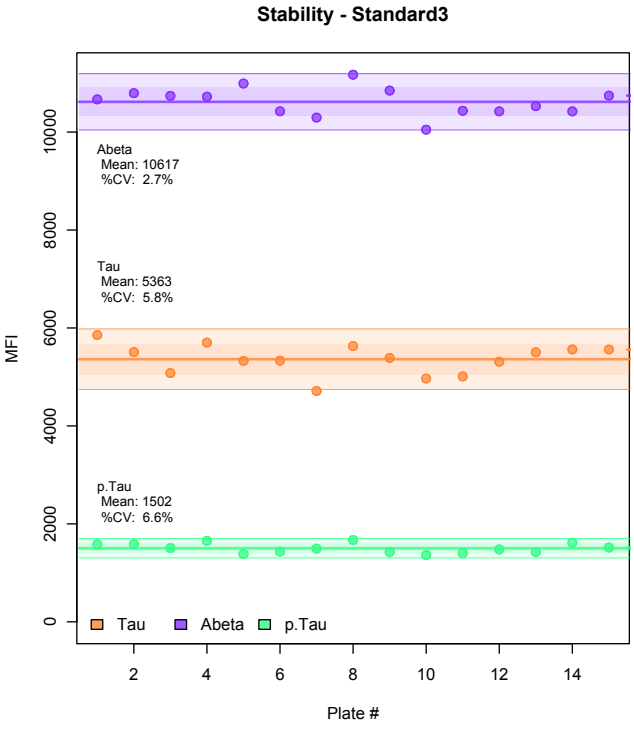
Pools	N	Mean [%]	Median [%]	Minimum [%]	Maximum [%]
Tau	37	3.74	2.856	0.1906	10.08
Abeta	37	2.359	2.186	0.02123	6.102
p-Tau	37	3.393	2.861	0	9.782

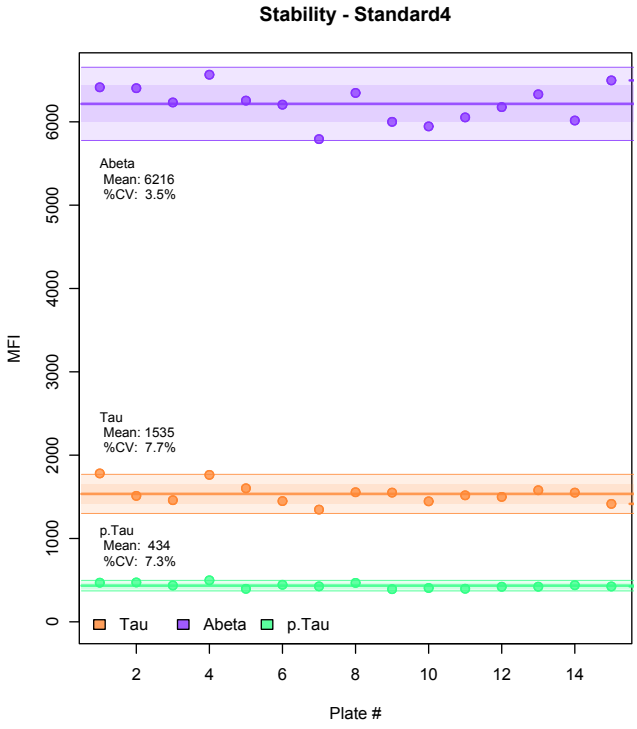
Samples	N	Mean [%]	Median [%]	Minimum [%]	Maximum [%]
Tau	495	3.575	2.772	0	23.21
Abeta	495	2.819	2.222	0	19.42
p-Tau	495	2.933	2.25	0	27.7

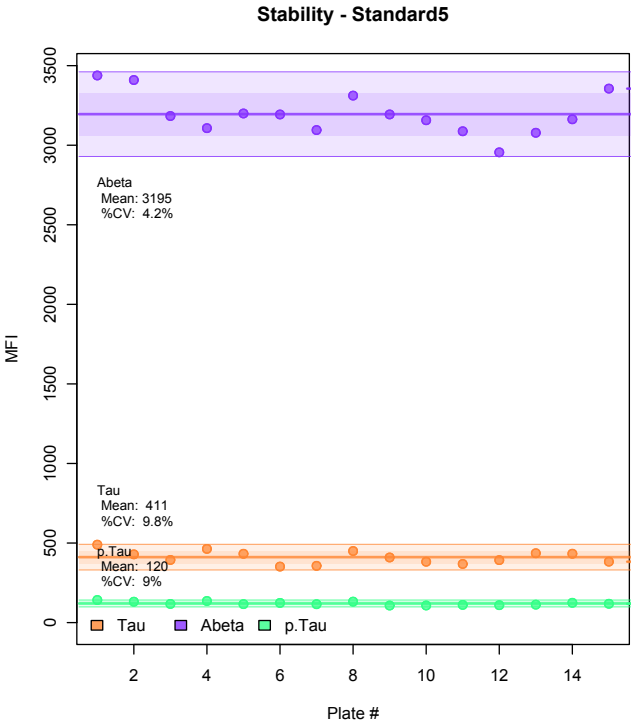
4 MFI stability plots

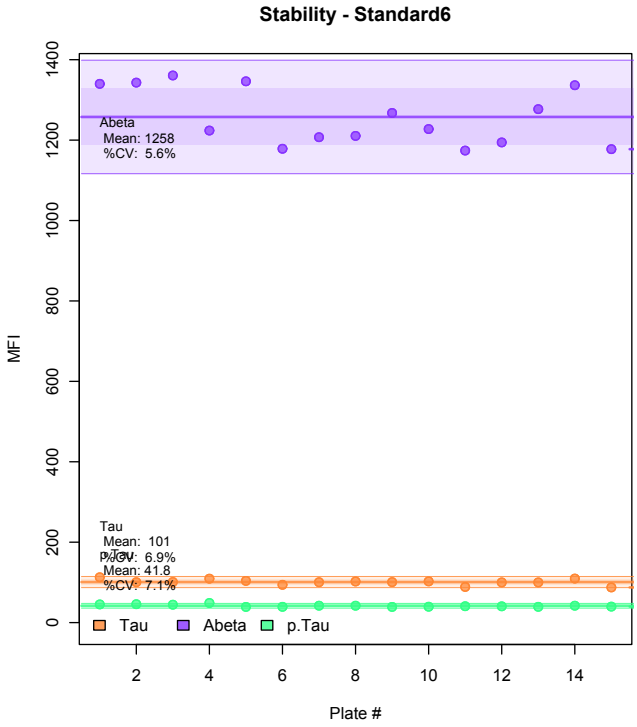


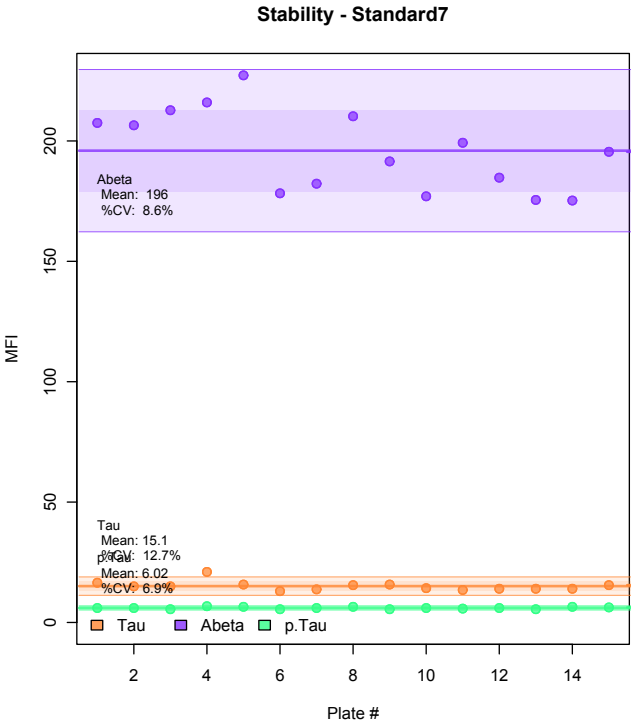


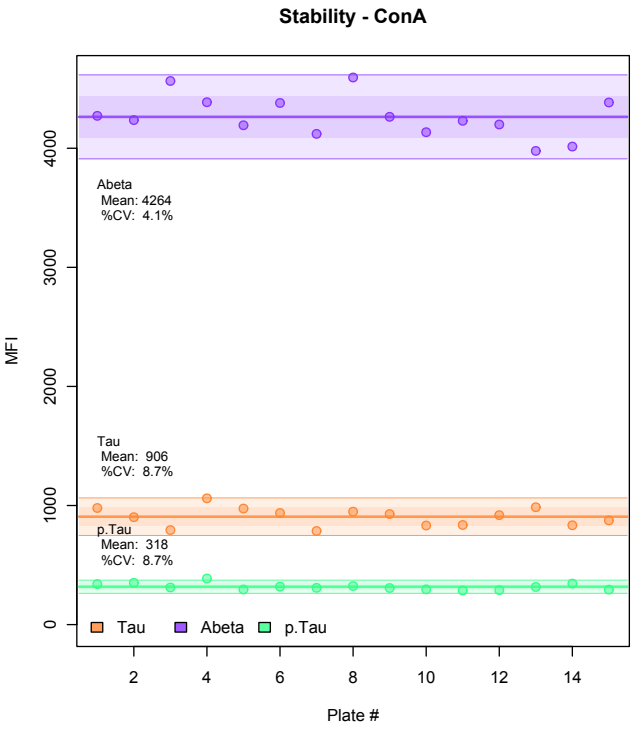


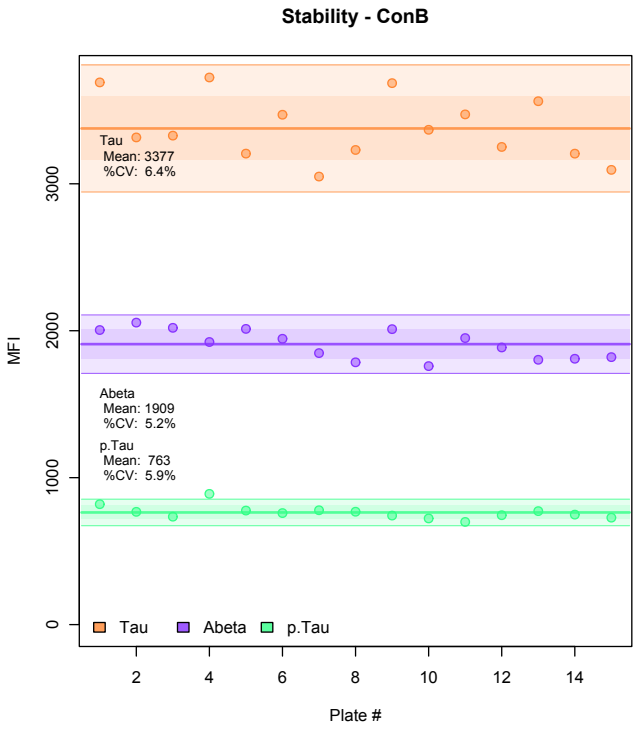


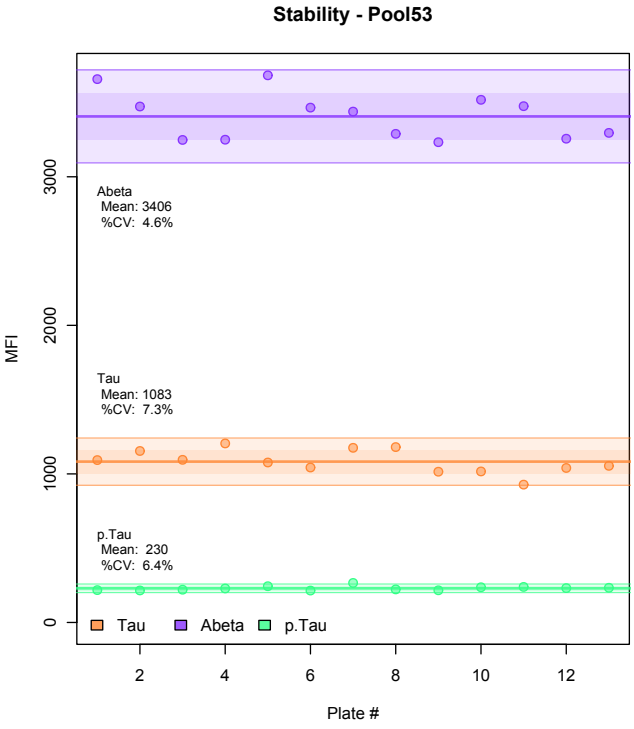

Stability - Standard5
MFI
Plate #
Abeta
Mean: 3195
%CV: 4.2%
Tau
Mean: 411
%CV: 9.8%
p.Tau
Mean: 120
%CV: 9%
Tau
Abeta
p.Tau

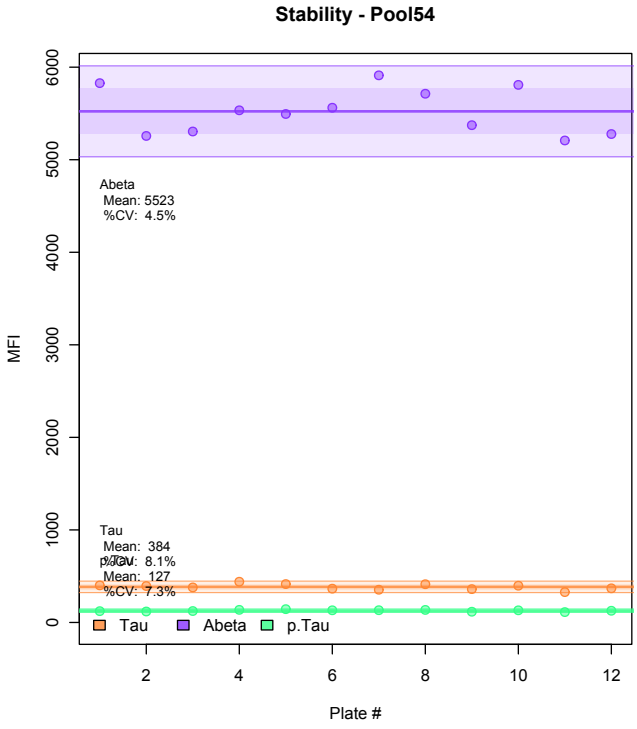

Stability - Standard6
MFI
Plate #
Abeta
Mean: 1258
%CV: 5.6%
Tau
Mean: 101
%CV: 6.9%
p.Tau
Mean: 41.8
%CV: 7.1%
Tau
Abeta
p.Tau

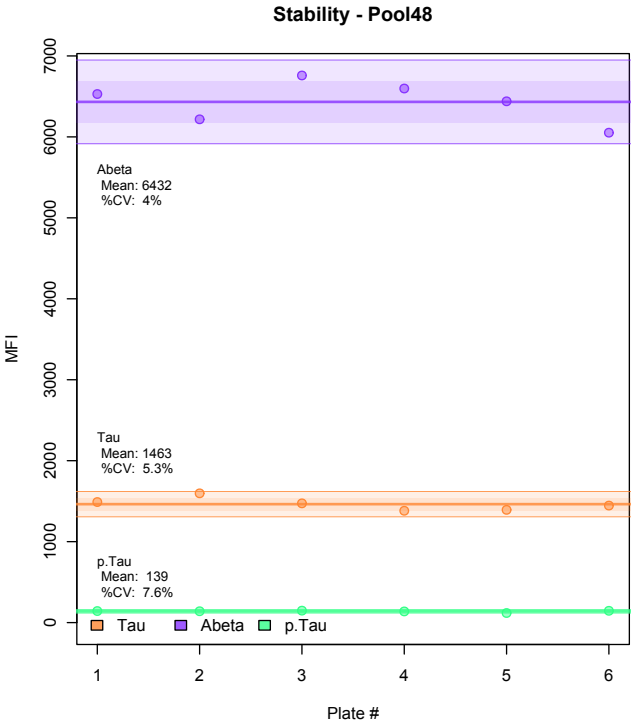

Stability - Standard7
MFI
Plate #
Abeta
Mean: 196
%CV: 8.6%
Tau
Mean: 15.1
%CV: 12.7%
p.Tau
Mean: 6.02
%CV: 6.9%
Tau
Abeta
p.Tau

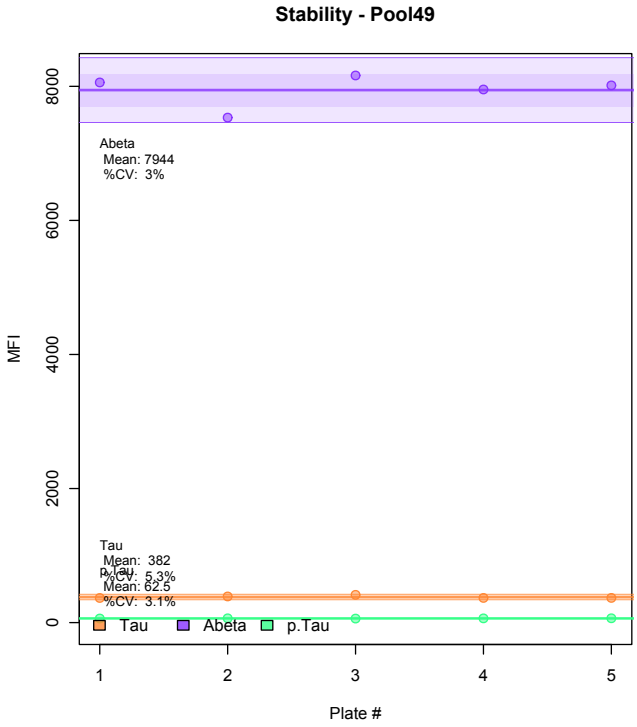

Stability - ConA
Abeta
Mean: 4264
%CV: 4.1%
Tau
Mean: 906
%CV: 8.7%
p.Tau
Mean: 318
%CV: 8.7%
Tau Abeta p.Tau
MFI
Plate #


Stability - ConB
Tau
Mean: 3377
%CV: 6.4%
Abeta
Mean: 1909
%CV: 5.2%
p.Tau
Mean: 763
%CV: 5.9%
Tau Abeta p.Tau
MFI
Plate #

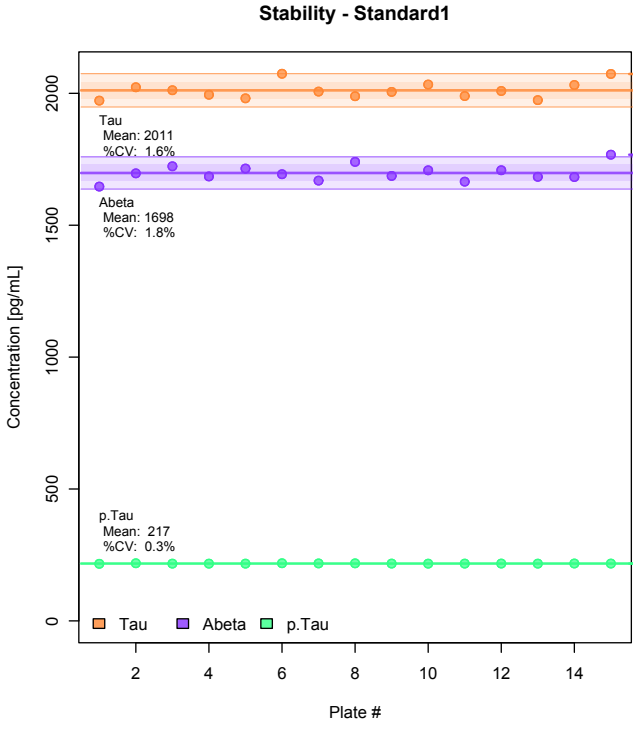

Stability - Pool53
Abeta
Mean: 3406
%CV: 4.6%
Tau
Mean: 1083
%CV: 7.3%
p.Tau
Mean: 230
%CV: 6.4%
Tau Abeta p.Tau
MFI
Plate #

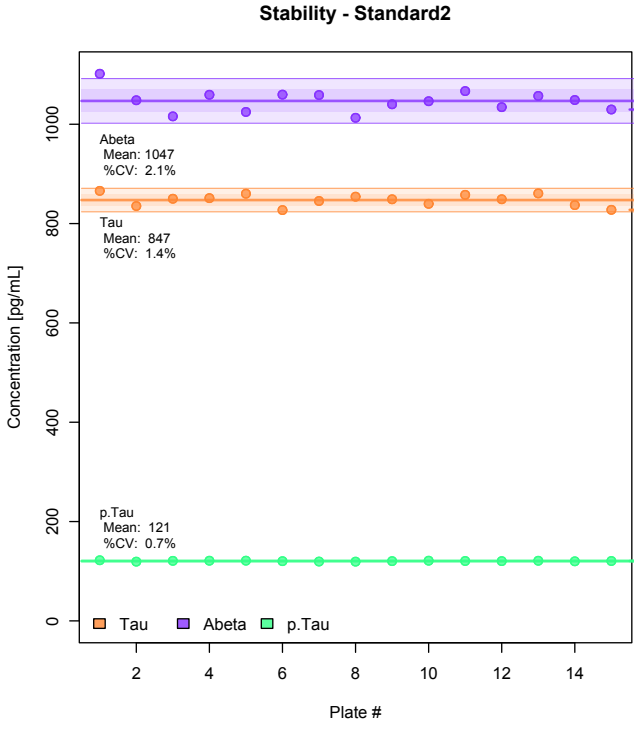

Stability - Pool54
Abeta
Mean: 5523
%CV: 4.5%
Tau
Mean: 384
%CV: 8.1%
p.Tau
Mean: 127
%CV: 7.3%
Tau Abeta p.Tau
MFI
Plate #

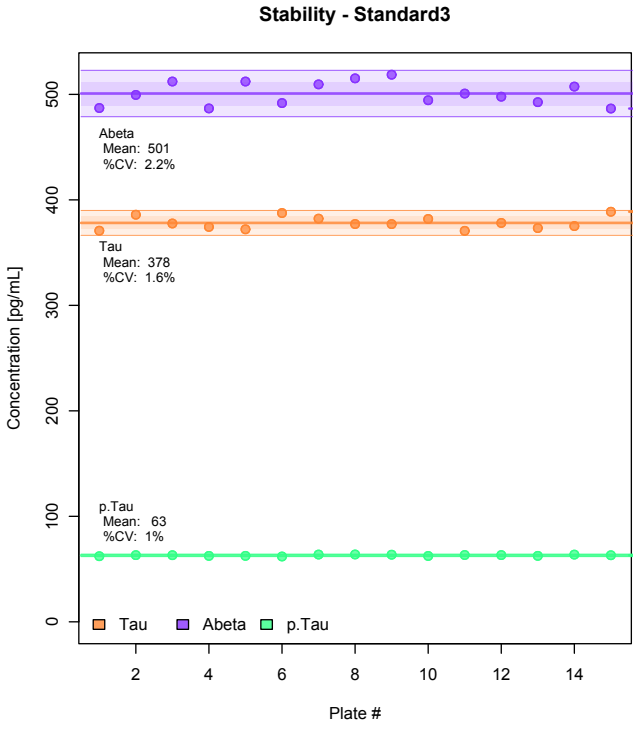

Stability - Pool48
MFI
Plate #
Abeta
Mean: 6432
%CV: 4%
Tau
Mean: 1463
%CV: 5.3%
p.Tau
Mean: 139
%CV: 7.6%
Tau
Abeta
p.Tau

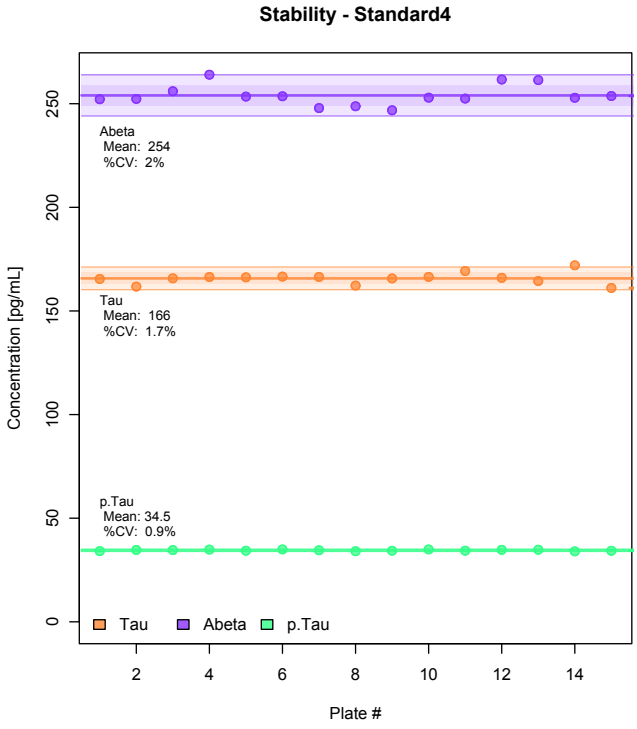

Stability - Pool49
MFI
Plate #
Abeta
Mean: 7944
%CV: 3%
Tau
Mean: 382
%CV: 5.3%
p.Tau
Mean: 62.5
%CV: 3.1%
Tau
Abeta
p.Tau

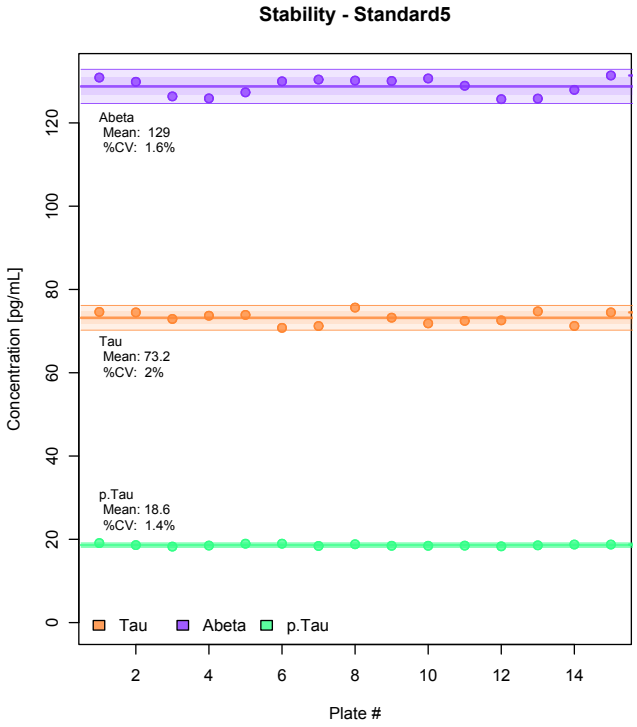
5 Result stability plots

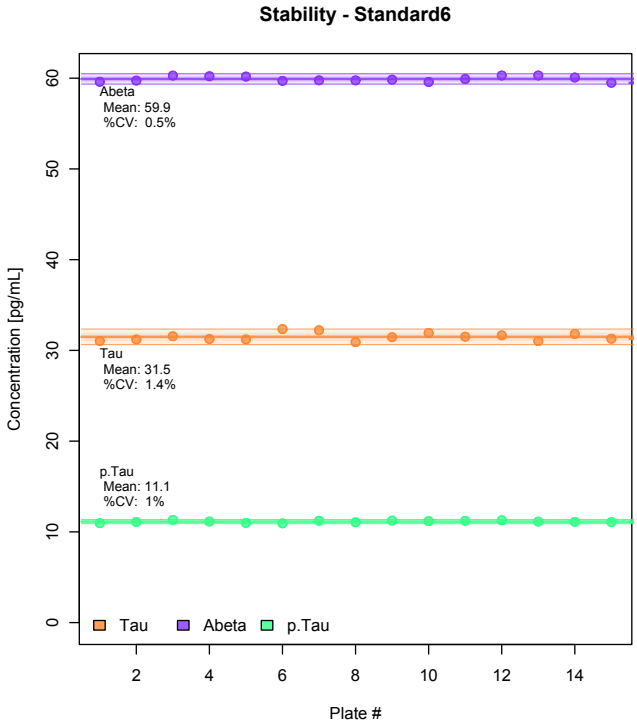


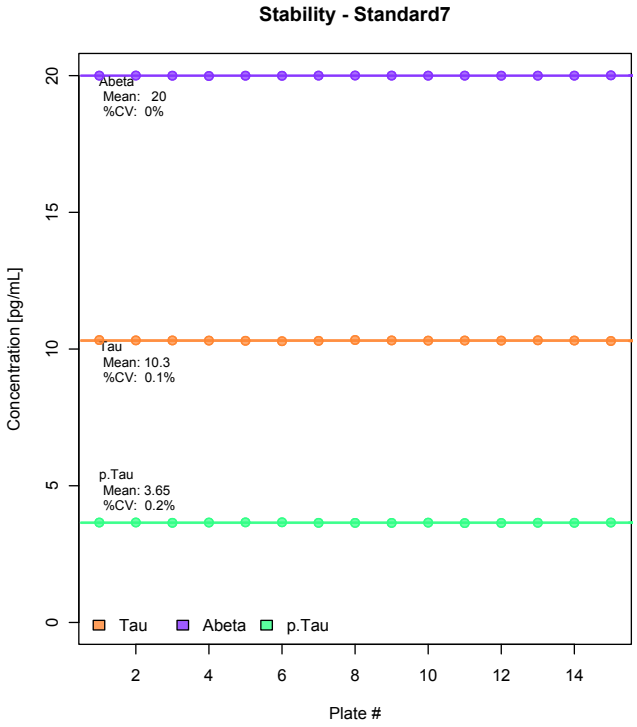


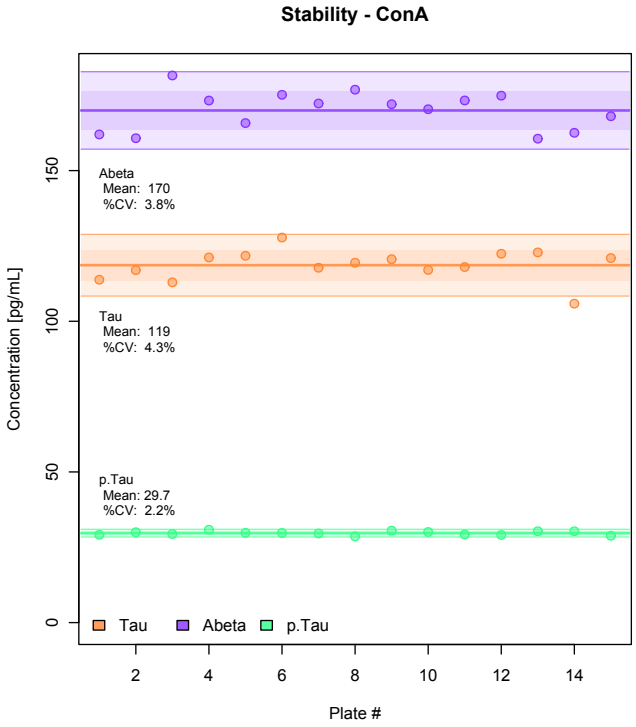


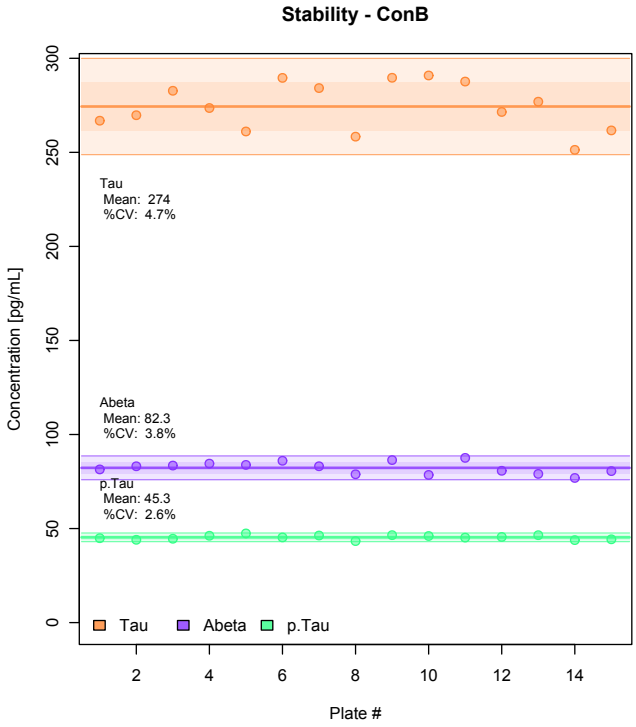


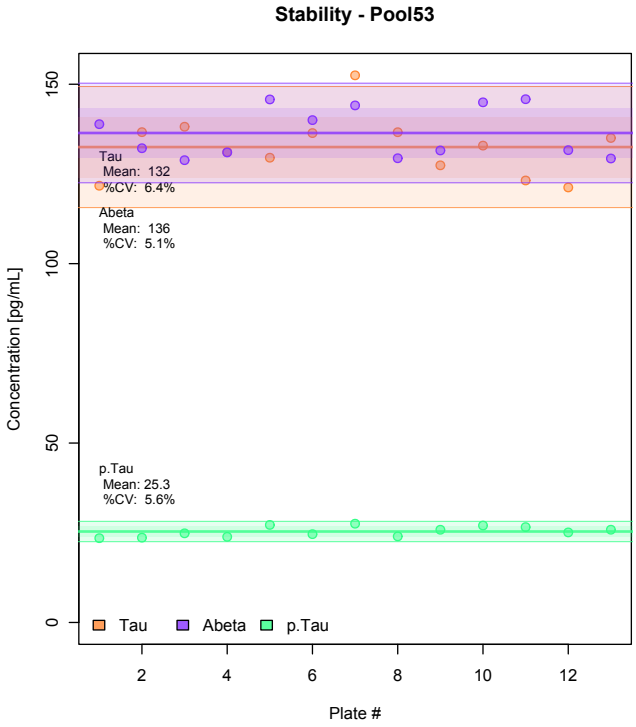

Stability - Standard5
Abeta
Mean: 129
%CV: 1.6%
Tau
Mean: 73.2
%CV: 2%
p.Tau
Mean: 18.6
%CV: 1.4%
Tau
Abeta
p.Tau
Concentration [pg/mL]
Plate #

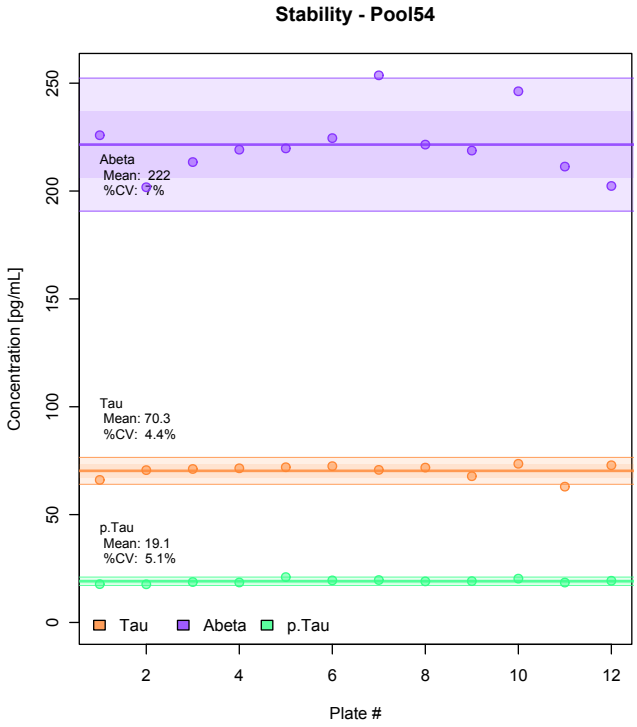

Stability - Standard6
Abeta
Mean: 59.9
%CV: 0.5%
Tau
Mean: 31.5
%CV: 1.4%
p.Tau
Mean: 11.1
%CV: 1%
Tau
Abeta
p.Tau
Concentration [pg/mL]
Plate #

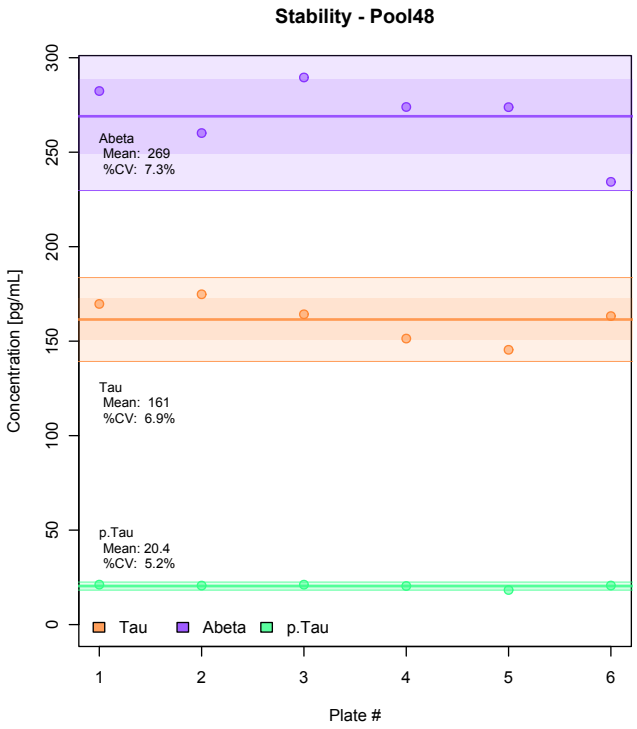

Stability - Standard7
Abeta
Mean: 20
%CV: 0%
Tau
Mean: 10.3
%CV: 0.1%
p.Tau
Mean: 3.65
%CV: 0.2%
Tau
Abeta
p.Tau
Concentration [pg/mL]
Plate #

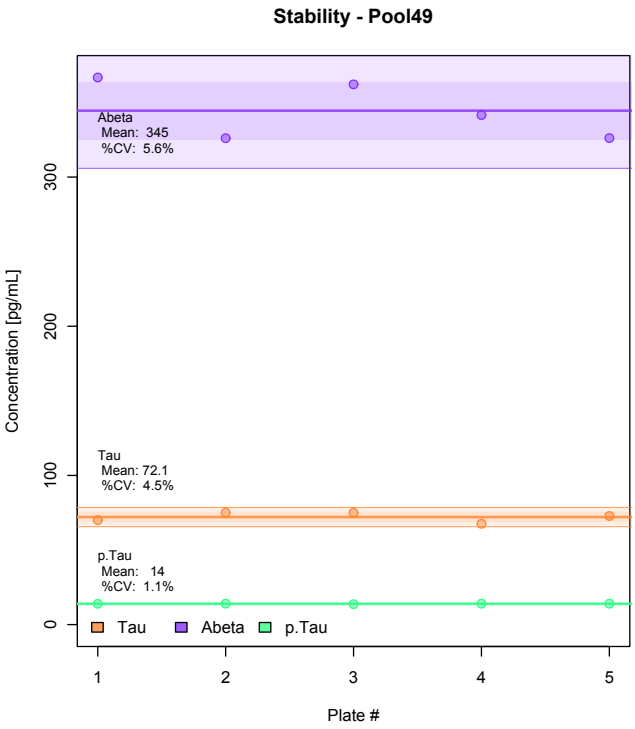

Stability - ConA
Abeta
Mean: 170
%CV: 3.8%
Tau
Mean: 119
%CV: 4.3%
p.Tau
Mean: 29.7
%CV: 2.2%
Tau Abeta p.Tau
Concentration [pg/mL]
Plate #


Stability - ConB
Tau
Mean: 274
%CV: 4.7%
Abeta
Mean: 82.3
%CV: 3.8%
p.Tau
Mean: 45.3
%CV: 2.6%
Tau Abeta p.Tau
Concentration [pg/mL]
Plate #


Stability - Pool53
Tau
Mean: 132
%CV: 6.4%
Abeta
Mean: 136
%CV: 5.1%
p.Tau
Mean: 25.3
%CV: 5.6%
Tau Abeta p.Tau
Concentration [pg/mL]
Plate #


Stability - Pool54
Abeta
Mean: 222
%CV: 9%
Tau
Mean: 70.3
%CV: 4.4%
p.Tau
Mean: 19.1
%CV: 5.1%
Tau Abeta p.Tau
Concentration [pg/mL]
Plate #



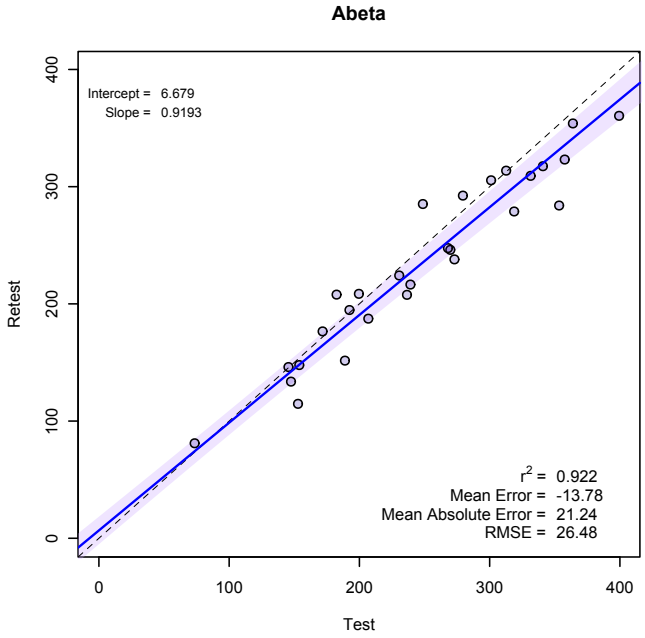


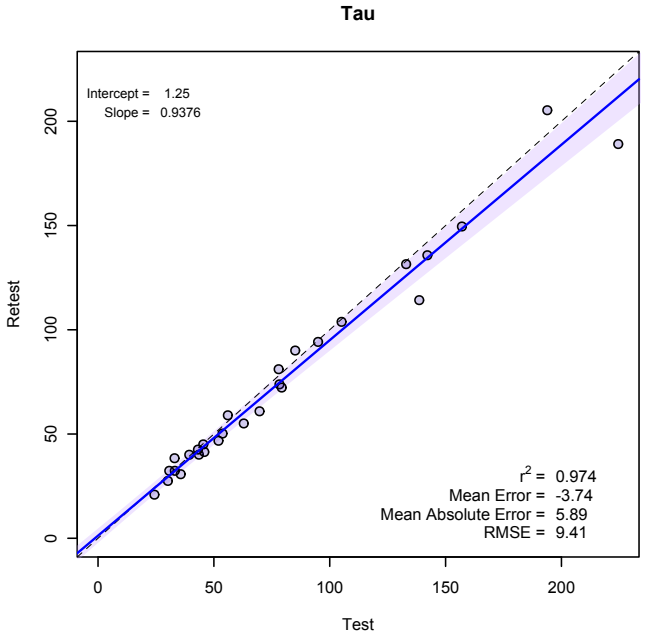
Analyte	Sample	N	Mean	SD	CV	5% CI	95% CI
Tau	Standard1	29	2012	115.9	5.76	1847	2234
	Standard2	30	847.4	30.83	3.64	797.4	890.6
	Standard3	30	378.2	12.81	3.39	358.8	404.4
	Standard4	29	165.5	7.106	4.29	155	178.6
	Standard5	30	73.19	2.884	3.94	67.39	77.62
	Standard6	30	31.49	1.118	3.55	29.68	33.56
	Standard7	30	10.31	0.4094	3.97	9.535	11.06
Abeta	Standard1	29	1698	45.22	2.66	1645	1804
	Standard2	29	1047	42.49	4.06	982.8	1135
	Standard3	30	500.8	18.23	3.64	467.5	530.6
	Standard4	30	254	9.324	3.67	239.1	273.7
	Standard5	30	128.8	3.365	2.61	124	135.4
	Standard6	30	59.92	1.871	3.12	56.94	62.9
	Standard7	30	20	0.3949	1.97	19.28	20.71
p-Tau	Standard1	30	217.4	2.765	1.27	212.5	222.1
	Standard2	29	120.5	2.932	2.43	115.2	126
	Standard3	30	63.01	1.368	2.17	60.77	65.62
	Standard4	30	34.5	0.7673	2.22	33.09	35.65
	Standard5	30	18.62	0.4568	2.45	17.7	19.22
	Standard6	30	11.13	0.2766	2.48	10.72	11.7
	Standard7	28	3.648	0.2151	5.9	3.336	3.943

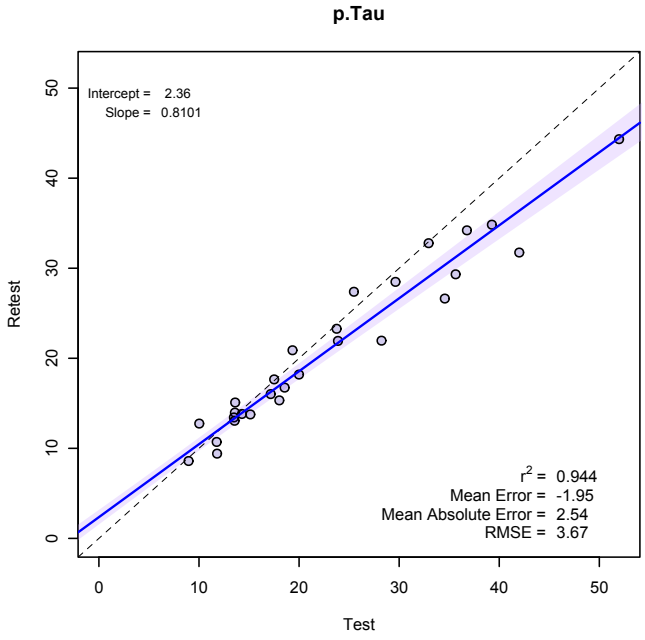
Analyte	Sample	N	Mean	SD	CV	5% CI	95% CI
Tau	ConA	30	118.6	6.7	5.65	105.5	128.7
	ConB	30	274.4	16.22	5.91	246.7	300.2
Abeta	ConA	30	170	6.843	4.03	157	181.1
	ConB	29	82.33	3.473	4.22	76.51	87.81
p-Tau	ConA	30	29.7	0.9932	3.34	27.71	31.03
	ConB	30	45.32	1.331	2.94	43.14	47.43

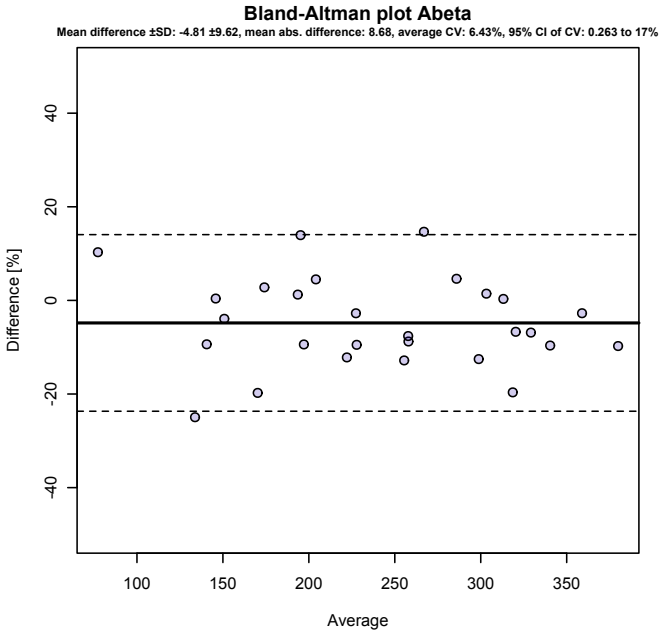
Analyte	Sample	N	Mean	SD	CV	5% CI	95% CI
Tau	Pool48	14	158.4	13.12	8.28	136.5	177.4
	Pool49	10	72.08	3.478	4.83	67.48	76.78
	Pool53	26	132.5	9.198	6.94	117.3	152
	Pool54	24	70.29	4.313	6.14	62	75.89
Abeta	Pool48	14	268.8	18.18	6.76	232.6	293.3
	Pool49	10	344.5	19.1	5.55	322.2	373.2
	Pool53	26	136.4	7.253	5.32	126.3	148.3
	Pool54	24	221.5	15.86	7.16	198.9	253.4
p-Tau	Pool48	14	20.24	1.28	6.32	18.3	22.05
	Pool49	10	13.96	0.4841	3.47	13.4	14.7
	Pool53	26	25.35	1.561	6.16	22.91	27.58
	Pool54	24	19.11	1.073	5.62	17.27	21.31

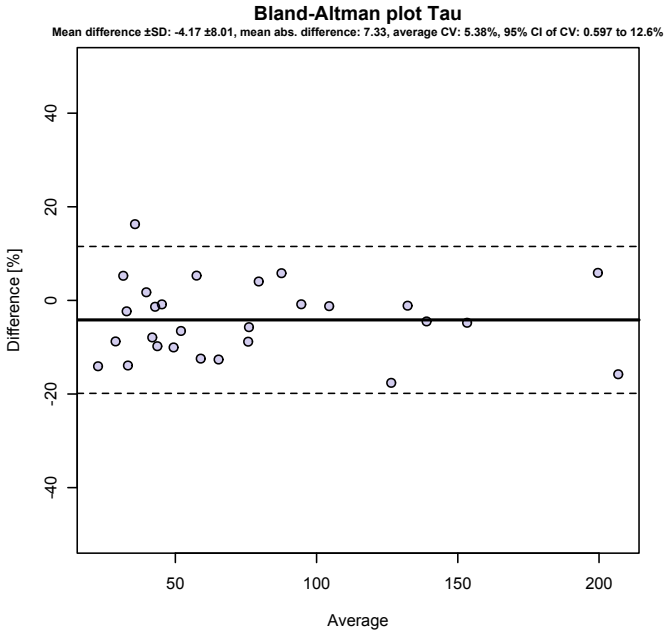
6 Test-retest plots

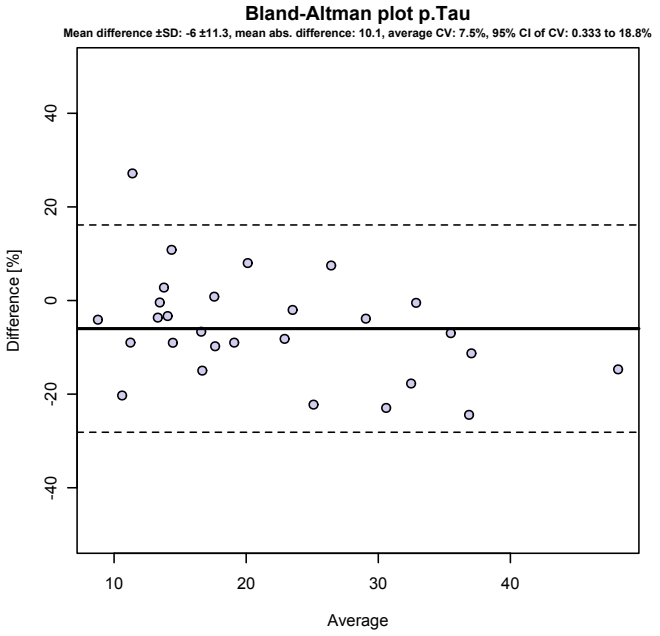







Bland-Altman plot Abeta
Mean difference ±SD: -4.81 ±9.62, mean abs. difference: 8.68, average CV: 6.43%, 95% CI of CV: 0.263 to 17%
Difference [%]
Average
40
20
0
-20
-40
100
150
200
250
300
350


Bland-Altman plot Tau
Mean difference ±SD: -4.17 ±8.01, mean abs. difference: 7.33, average CV: 5.38%, 95% CI of CV: 0.597 to 12.6%
Difference [%]
Average
40
20
0
-20
-40
50
100
150
200


Bland-Altman plot p.Tau
Mean difference ±SD: -6 ±11.3, mean abs. difference: 10.1, average CV: 7.5%, 95% CI of CV: 0.333 to 18.8%
Difference [%]
Average
40
20
0
-20
-40
10
20
30
40

Part II
Results

1 Pool and QC results

Plate	Sample	Tau	Abeta	PTau
1	ConA	118.00	173.28	29.25
1	ConB	287.63	87.57	45.18
1	Pool48	174.81	260.13	20.65
1	Pool49	75.01	326.05	14.06
2	ConA	122.40	174.87	29.09
2	ConB	271.48	80.70	45.54
2	Pool48	164.22	289.54	21.13
2	Pool49	74.96	362.13	13.70
2	Pool53	123.18	145.83	26.57
3	ConA	122.85	160.59	30.33
3	ConB	276.93	79.05	46.47
3	Pool48	151.37	273.92	20.43
3	Pool49	67.56	341.55	14.04
3	Pool54	62.96	211.34	18.50
4	ConA	105.85	162.54	30.32
4	ConB	251.33	76.90	43.86
4	Pool48	145.43	273.83	18.31
4	Pool53	121.23	131.63	25.09
4	Pool48 1	139.73	267.63	19.34
5	ConA	120.97	168.04	28.81
5	ConB	261.66	80.55	44.28
5	Pool48	163.26	234.31	20.68
5	Pool49	72.82	326.11	14.03
5	Pool53	135.02	129.31	25.85
5	Pool54	72.87	202.34	19.34
6	ConA	117.04	170.37	30.07
6	ConB	290.87	78.51	46.04
6	Pool48	169.70	282.37	21.16
6	Pool49	70.08	366.74	13.95
6	Pool53	132.89	144.96	27.02
6	Pool54	73.56	246.24	20.32
7	ConA	117.76	172.26	29.57
7	ConB	284.17	83.12	46.30
7	Pool53	152.48	144.09	27.53
7	Pool54	70.73	253.63	19.67
8	ConA	119.43	176.85	28.63
8	ConB	258.35	78.85	43.34
8	Pool53	136.63	129.38	23.99
8	Pool54	71.79	221.52	19.06
9	ConA	120.59	172.03	30.52
9	ConB	289.65	86.41	46.49
9	Pool53	127.40	131.54	25.84
9	Pool54	67.80	218.75	19.16
10	ConA	113.78	162.00	29.13
10	ConB	266.83	81.43	44.87
10	Pool53	121.71	138.87	23.49
10	Pool54	66.09	225.87	17.77
11	ConA	116.96	160.74	30.00
11	ConB	269.74	83.11	44.02
11	Pool53	136.64	132.17	23.63
11	Pool54	70.62	201.75	17.69

Plate	Sample	Tau	Abeta	PTau
12	ConA	112.92	181.56	29.42
12	ConB	282.73	83.49	44.58
12	Pool53	138.16	128.84	24.84
12	Pool54	71.14	213.43	18.74
13	ConA	121.17	173.24	30.81
13	ConB	273.56	84.51	46.17
13	Pool53	131.09	131.00	23.87
13	Pool54	71.47	219.17	18.53
14	ConA	121.73	165.77	29.78
14	ConB	261.10	83.83	47.40
14	Pool53	129.52	145.76	27.19
14	Pool54	71.96	219.76	21.03
15	ConA	127.79	175.15	29.75
15	ConB	289.59	86.03	45.29
15	Pool53	136.39	140.00	24.61
15	Pool54	72.46	224.53	19.50

2 Patient results

RID	Visit	Abeta	Tau	p-Tau
2002	BL	375.35	39.35	12.59
2010	BL	371.32	58.62	17.68
2018	BL	336.12	55.47	16.48
2022	BL	237.36	66.66	21.08
2026	BL	318.81	30.15	8.96
2027	BL	370.63	44.71	12.71
2031	BL	328.49	42.15	13.57
2036	BL	286.85	27.87	18.55
2042	BL	290.56	35.07	15.62
2045	BL	172.18	60.41	22.72
2047	BL	140.85	97.79	26.61
2052	BL	316.36	52.30	13.04
2055	BL	162.76	130.23	34.52
2058	BL	307.86	168.83	24.62
2060	BL	267.78	37.64	18.60
2061	BL	358.96	39.62	17.71
2063	BL	150.08	76.43	22.68
2068	BL	192.36	94.97	28.24
2070	BL	282.98	31.11	12.65
2072	BL	351.43	39.80	10.92
2073	BL	240.40	68.42	21.89
2074	BL	284.78	26.92	14.50
2077	BL	224.75	51.47	20.36
2079	BL	162.78	134.87	43.88
2083	BL	340.93	41.67	11.54
2087	BL	118.12	96.20	31.42
2093	BL	284.70	91.59	30.35
2099	BL	271.01	109.59	25.00
2100	BL	197.91	164.70	37.96
2106	BL	117.26	157.36	34.48
2109	BL	165.94	90.13	25.92
2116	BL	322.89	25.57	13.25
2119	BL	322.37	78.36	26.83
2121	BL	260.19	73.39	21.46
2123	BL	280.38	33.95	11.54
2124	BL	264.50	93.30	20.59
2125	BL	187.08	38.15	31.21
2130	BL	124.34	90.61	29.87
2133	BL	121.97	104.56	25.35
2142	BL	191.12	95.03	27.48
2146	BL	336.77	57.19	17.56
2148	BL	301.11	43.54	11.77
2150	BL	195.78	80.19	28.66
2151	BL	279.38	44.28	11.95
2153	BL	268.64	26.61	10.53
2155	BL	135.32	270.81	36.43
2164	BL	298.19	30.65	10.40
2167	BL	166.82	76.23	33.92
2168	BL	393.73	85.78	13.42
2171	BL	187.95	125.02	49.80
2180	BL	392.48	56.93	16.67

RID	Visit	Abeta	Tau	p-Tau
2182	BL	290.82	49.68	17.65
2183	BL	324.62	40.49	11.10
2185	BL	279.45	78.30	23.75
2187	BL	352.49	57.41	19.80
2190	BL	216.55	103.31	24.27
2193	BL	307.43	41.51	12.41
2194	BL	187.09	110.33	35.82
2195	BL	172.72	148.41	48.25
2196	BL	182.21	77.71	21.06
2199	BL	309.03	55.40	30.23
2200	BL	297.16	39.98	17.07
2201	BL	325.42	45.83	18.22
2205	BL	102.48	55.80	31.74
2208	BL	320.88	46.44	14.29
2210	BL	153.23	34.39	11.17
2213	BL	244.98	93.92	25.58
2216	BL	152.27	62.38	25.73
2219	BL	326.17	75.94	21.45
2220	BL	290.82	44.99	11.34
2225	BL	238.74	77.32	18.91
2233	BL	288.86	46.68	20.40
2234	BL	357.62	53.74	17.17
2237	BL	345.79	52.95	12.63
2238	BL	316.16	49.54	15.55
2239	BL	318.26	69.54	15.96
2240	BL	182.47	157.04	39.26
2245	BL	216.86	54.81	15.30
2247	BL	275.26	33.22	12.18
2248	BL	137.00	172.18	39.86
2249	BL	240.01	69.53	15.38
2263	BL	238.65	49.40	15.31
2264	BL	187.53	39.53	42.96
2274	BL	238.88	69.94	23.48
2278	BL	336.40	57.89	24.84
2284	BL	256.19	48.25	12.73
2301	BL	354.80	65.09	31.19
2304	BL	322.73	40.19	11.71
2307	BL	196.41	97.76	18.69
2308	BL	277.88	32.50	8.55
2315	BL	294.22	35.01	9.91
2316	BL	124.62	226.52	49.46
2324	BL	282.36	25.59	11.43
2332	BL	324.86	79.33	20.73
2333	BL	209.25	73.29	25.58
2336	BL	231.48	117.06	52.57
2347	BL	230.90	70.90	16.57
2357	BL	376.52	58.49	15.05
2360	BL	255.34	72.49	20.32
2363	BL	387.31	63.41	25.30
2367	BL	264.93	60.29	22.03
2373	BL	147.49	193.89	36.77
2374	BL	399.37	79.27	18.56
2378	BL	306.24	57.24	15.75
2379	BL	299.97	29.55	9.90

RID	Visit	Abeta	Tau	p-Tau
2380	BL	196.63	68.98	21.24
2381	BL	129.21	213.71	41.38
2389	BL	244.44	35.47	14.80
2390	BL	188.41	165.68	34.83
2391	BL	149.95	84.50	23.66
2392	BL	239.16	33.02	19.34
2394	BL	139.40	66.42	18.50
2396	BL	395.57	47.30	15.36
2398	BL	209.02	43.46	12.34
2403	BL	161.54	86.19	21.18
2405	BL	288.91	63.33	28.70
2407	BL	314.05	58.24	16.41
4001	BL	128.31	128.98	22.58
4003	BL	216.91	87.21	19.69
4004	BL	288.19	76.88	21.36
4005	BL	180.95	116.78	42.32
4007	BL	188.61	79.54	24.80
4009	BL	328.51	66.29	15.18
4010	BL	173.89	41.06	15.61
4012	BL	197.22	91.98	30.05
4014	BL	121.33	103.83	26.94
4015	BL	101.31	121.55	39.85
4018	BL	332.13	48.43	14.56
4020	BL	333.11	73.67	17.13
4021	BL	245.17	21.43	13.90
4022	BL	110.11	127.37	36.62
4024	BL	188.90	224.50	51.97
4026	BL	171.97	67.57	16.81
4028	BL	277.59	78.50	20.79
4029	BL	225.68	96.61	22.43
4030	BL	139.77	54.39	48.21
4032	BL	292.93	43.38	18.88
4034	BL	139.70	170.21	54.55
4035	BL	148.48	124.74	25.78
4036	BL	331.78	51.58	15.77
4037	BL	340.90	62.89	19.99
4039	BL	152.35	188.48	54.68
4041	BL	322.80	96.55	23.87
4042	BL	145.23	105.65	42.10
4043	BL	402.55	69.81	15.48
4050	BL	273.93	43.29	13.51
4053	BL	163.64	79.67	30.36
4057	BL	197.85	200.76	53.42
4058	BL	129.65	85.98	23.00
4059	BL	119.72	51.42	28.02
4060	BL	230.55	45.87	13.62
4061	BL	263.29	51.84	14.12
4063	BL	337.80	42.67	23.65
4066	BL	306.77	43.99	18.72
4067	BL	118.65	44.80	16.17
4071	BL	213.90	107.60	19.57
4072	BL	346.28	39.80	12.56
4073	BL	199.60	35.69	13.59
4075	BL	279.64	76.53	28.45

RID	Visit	Abeta	Tau	p-Tau
4076	BL	349.17	50.14	13.74
4077	BL	336.38	37.21	25.61
4079	BL	158.07	166.85	30.90
4080	BL	191.38	91.64	23.01
4081	BL	166.02	57.52	18.71
4082	BL	209.90	52.91	30.88
4084	BL	368.40	60.68	24.92
4086	BL	243.75	20.33	9.45
4089	BL	179.31	189.66	40.30
4090	BL	425.49	61.45	39.33
4092	BL	174.06	114.37	31.92
4093	BL	214.83	26.70	10.74
4094	BL	289.44	41.34	22.55
4095	BL	237.32	54.20	11.71
4096	BL	92.09	51.79	22.71
4097	BL	185.66	66.91	15.99
4100	BL	179.81	92.64	25.52
4102	BL	291.64	50.53	15.64
4103	BL	338.47	49.13	12.05
4104	BL	241.82	40.87	12.92
4105	BL	260.06	32.80	12.08
4114	BL	183.00	166.15	90.52
4115	BL	293.20	49.57	17.01
4119	BL	339.82		22.92
4120	BL	152.77	96.92	30.03
4121	BL	228.73	81.31	20.53
4122	BL	180.28	117.61	31.28
4124	BL	96.68	68.60	23.50
4125	BL	301.28	41.11	15.26
4127	BL	276.01	21.62	9.02
4128	BL	206.69	66.34	36.32
4131	BL	160.72	98.65	28.81
4133	BL	255.30	74.00	17.01
4134	BL	188.36	99.18	35.42
4138	BL	355.24	87.17	23.62
4139	BL	298.16	42.72	10.16
4143	BL	371.42	71.44	17.58
4146	BL			
4148	BL	286.32	49.76	17.85
4149	BL	184.65	52.36	20.72
4150	BL	321.07	43.71	20.54
4151	BL	137.54	47.72	20.04
4152	BL	128.99	111.85	38.21
4153	BL	129.13	109.77	39.92
4157	BL	212.83	65.02	33.16
4158	BL	300.41	53.00	17.50
4159	BL	270.08	45.78	17.53
4160	BL	296.21	34.38	10.47
4162	BL	173.45	106.44	23.54
4164	BL	350.99	50.54	16.99
4167	BL	178.19	95.28	34.85
4168	BL	195.06	56.85	16.66
4169	BL	295.32	44.37	15.36
4170	BL	222.00	40.20	21.07

RID	Visit	Abeta	Tau	p-Tau
4171	BL	198.14	187.20	32.66
4172	BL	199.45	122.76	26.82
4173	BL	267.45	31.55	17.99
4174	BL	160.71	81.40	23.68
4175	BL	230.64		22.62
4176	BL	185.32	159.00	40.71
4177	BL	272.95	39.37	14.29
4179	BL	92.32	56.44	32.08
4184	BL	261.79	28.25	9.76
4185	BL	251.73	26.81	14.40
4186	BL	295.66	35.96	12.63
4187	BL	220.00	54.86	14.11
4188	BL	171.21	81.62	23.67
4189	BL	143.77	173.44	28.66
4192	BL	166.38	60.78	19.41
4194	BL	312.76	62.42	21.92
4195	BL	108.21		48.77
4196	BL	209.89	95.58	39.52
4197	BL	194.08	58.45	18.42
4198	BL	185.86	59.49	27.12
4199	BL	314.58		19.08
4200	BL	301.94	41.43	10.94
4201	BL	196.07	197.39	41.16
4202	BL	153.17	35.04	24.47
4203	BL	175.06	74.18	28.52
4205	BL	199.48	72.96	35.46
4206	BL	334.15	62.04	26.11
4208	BL	353.34	51.98	18.03
4209	BL	163.52	120.04	27.28
4210	BL	290.45	81.45	36.07
4211	BL	147.55	54.26	16.48
4213	BL	331.46	45.42	13.49
4214	BL	275.58	31.32	9.89
4215	BL	158.32	75.83	42.33
4217	BL	350.50	49.95	15.18
4218	BL	308.15	82.75	20.56
4219	BL	292.00	34.13	17.10
4220	BL	383.22	55.75	16.48
4223	BL	222.33	88.27	18.97
4224	BL	300.50	41.66	15.05
4225	BL	183.48		39.84
4226	BL	375.77	58.71	18.56
4229	BL	267.98	24.33	11.81
4232	BL	206.83	43.12	15.13
4235	BL	162.16	86.98	34.81
4237	BL	298.54	67.86	21.72
4240	BL	99.36	74.01	38.36
4244	BL	198.57	34.70	11.19
4245	BL	278.02	29.18	13.76
4250	BL	137.90	132.76	27.61
4251	BL	149.44	52.95	20.37
4252	BL	155.76	86.44	36.62
4254	BL	198.47	101.89	26.33
4256	BL	252.01	44.95	21.57

RID	Visit	Abeta	Tau	p-Tau
4258	BL	184.23	104.40	29.00
4260	BL	207.35	46.37	15.80
4262	BL	174.63		36.00
4263	BL	154.32	118.39	24.94
4266	BL	205.49	99.73	29.09
4268	BL	293.13	34.78	11.82
4269	BL	237.65	46.18	12.82
4270	BL	133.60	41.70	23.64
4271	BL	266.56	45.13	16.71
4272	BL	176.43	49.54	11.67
4274	BL	244.72	36.70	11.30
4275	BL	310.16	52.36	31.37
4276	BL	328.60	72.15	17.35
4277	BL	337.50	69.40	17.10
4278	BL	115.08	57.54	14.45
4279	BL	414.13	90.51	18.13
4280	BL	206.83	126.70	36.15
4281	BL	371.25	75.49	23.66
4285	BL	318.30	36.26	17.37
4287	BL	143.14	106.96	53.11
4288	BL	236.52	33.13	13.56
4290	BL	155.87	104.10	28.08
4291	BL	209.83	60.36	
4292	BL	292.47	53.32	19.05
4293	BL	453.02	55.56	36.86
4294	BL	138.70	163.10	25.50
4299	BL	323.59	62.21	19.82
4300	BL	187.54	42.32	23.80
4301	BL	248.72	30.74	10.03
4302	BL	161.89	94.13	29.31
4303	BL	204.32	100.49	27.60
4310	BL	223.28	30.53	10.34
4311	BL	243.55	81.34	23.36
4312	BL	142.87	60.71	18.82
4320	BL	185.00	61.46	24.77
4324	BL	108.77	36.29	21.02
4328	BL	324.59	41.39	26.94
4331	BL	257.79	28.93	11.35
4332	BL	297.93	52.81	16.72
4335	BL	112.20	70.74	29.91
4337	BL	257.65	22.29	9.42
4338	BL	270.08	74.94	21.25
4339	BL	104.82	65.76	21.54
4340	BL	298.77	43.15	14.01
4343	BL	164.83	159.20	30.76
4346	BL	145.52	77.94	42.00
4348	BL	189.22	55.96	22.32
4350	BL	300.39	46.92	20.07
4351	BL	193.08	63.40	20.60
4352	BL	232.17	45.45	20.02
4353	BL	138.99	71.77	20.97
4354	BL	274.91	37.43	29.61
4356	BL	351.43	184.04	35.09
4357	BL	291.15	50.94	13.57

RID	Visit	Abeta	Tau	p-Tau
4359	BL	162.50	108.21	31.75
4360	BL	286.68	32.93	16.64
4363	BL	176.47	103.79	32.34
4365	BL	238.16	44.50	15.33
4366	BL	160.19	148.65	43.08
4367	BL	246.65	53.47	18.51
4369	BL	312.66	56.02	29.63
4371	BL	174.43	65.56	24.62
4376	BL	247.69	66.89	31.52
4377	BL	241.27	87.15	23.87
4381	BL	338.88	44.63	16.11
4382	BL	363.91	105.10	25.48
4384	BL	257.63	26.68	9.39
4386	BL	190.52	145.07	28.25
4387	BL	260.39	75.26	18.09
4388	BL	212.44	41.81	14.37
4390	BL	297.91	43.72	20.70
4391	BL	289.11	33.91	14.02
4392	BL	219.27	112.24	27.34
4393	BL	338.43	88.07	49.39
4394	BL	298.04	36.64	10.63
4395	BL	290.61	27.16	12.24
4396	BL	234.81	39.43	15.05
4401	BL	293.87	83.25	17.55
4402	BL	126.82	141.40	47.94
4403	BL	109.11	59.21	14.45
4404	BL	198.99	51.49	19.36
4405	BL	153.83	132.97	35.64
4406	BL	178.21	85.97	24.55
4410	BL	245.76	79.40	33.18
4415	BL	97.84	237.10	43.47
4417	BL	169.86	48.09	16.84
4419	BL	176.34	29.70	25.14
4421	BL	377.43	26.97	26.20
4422	BL	219.15	102.22	31.22
4423	BL	174.45	63.69	19.43
4424	BL	214.93	37.33	11.62
4427	BL	324.09	52.14	19.32
4428	BL	275.72	53.39	27.92
4429	BL	302.93	69.91	37.43
4434	BL	339.73	25.50	14.80
4438	BL	176.38	53.21	17.46
4445	BL	301.96	57.75	28.09
4447	BL	162.31	122.41	46.05
4453	BL	345.93	62.06	18.65
4455	BL	338.61	76.87	52.37
4456	BL	150.62	73.71	42.13
4458	BL	164.43		94.36
4462	BL	201.58	53.36	25.51
4464	BL	223.38	47.63	15.39
4465	BL	259.17	51.22	17.91
4466	BL	293.99	50.53	16.67
4467	BL	150.35	232.18	73.26
4473	BL	200.45	98.09	72.05

RID	Visit	Abeta	Tau	p-Tau
4474	BL	107.61	114.83	27.61
4476	BL	390.82	75.71	26.93
4477	BL	166.89	113.08	32.49
4488	BL	382.83	48.80	20.47
4494	BL	97.38	128.65	44.93
4500	BL	136.95	97.38	60.43
4505	BL	328.26	83.16	22.91
4507	BL	173.42	76.33	37.53
4508	BL	199.80	49.71	26.28
4510	BL	160.34	132.73	45.43
4516	BL	338.78	60.16	18.92
4521	BL	205.04	161.71	60.88
4526	BL	103.65	142.36	31.56
4530	BL	193.72	64.07	51.31
4553	BL	219.26	59.79	26.93