

## **Estimation Summary Report**

04 January 2020 02:44:15 pm

AIC: 2029.35

Log-likelihood: -957.676

Release: -211.262

A1: -127.521

A2: -11.5211

A3: -119.059

A4: -57.2501

A5: -101.498

A6: -79.5501

A8: -63.2745

A9: -42.5282

A10: -20.7102

A11: -71.7912

A12: -13.2814

A13: -4.80778

A14: -2.51361

A15: -7.15237

A16: -4.09285

A17: -340.295

A18: -2.18109

A19: 0

B1: -18.1183

B2: 0

C1: -0.189124

D1: 0

E1: -3.5117

E2: -2.14687

F1: -0.881534

B1aux: -7.70924

C1aux: -1.39649

D1aux: 3.02733

A15aux: -3.08816

A16aux: -3.27578

A17aux: -1.559

A18aux: 368.203

A19aux: -3.02849

E1aux: -3.71236

Dimension of the Minimum Sufficient Statistic: 68

Number of parameters: 57

## **Categories and Corresponding Counts by Likelihood**

"Release"

Total observed counts: 347

Category	Counts	Category	Counts	Category	Counts
RA1	343	RA2	0	RA3	0
RA4	0	RA5	0	RA6	0
RA8	0	RA9	0	RA10	0

RA11	0	RA12	0	RA13	0
RA14	0	RA15	0	RA16	0
RA17	0	RA18	0	RA19	0
RB1	0	RB2	0	RC1	0
RD1	0	RE1	0	RE2	0
RF1	0	Rx	4		

"A1"

Total observed counts: 343

Category	Counts	Category	Counts	Category	Counts
A1 A2	37	A1 A3	177	A1 A4	26
A1 A5	1	A1 A6	0	A1 A8	0
A1 A9	0	A1 A10	0	A1 A11	0
A1 A12	0	A1 A13	0	A1 A14	0
A1 A15	0	A1 A16	0	A1 A17	0
A1 A18	0	A1 A19	0	A1 B1	0
A1 B2	0	A1 C1	0	A1 D1	0
A1 E1	0	A1 E2	0	A1 F1	0
A1 x	102				

"A2"

Total observed counts: 37

Category	Counts	Category	Counts	Category	Counts
A2A3	28	A2A4	5	A2A5	0
A2A6	0	A2A8	0	A2A9	0
A2A10	0	A2A11	0	A2A12	0
A2A13	0	A2A14	0	A2A15	0
A2A16	0	A2A17	0	A2A18	0
A2A19	0	A2 B1	0	A2 B2	0

A2 C1	0	A2 D1	0	A2 E1	0
A2 E2	0	A2 F1	0	A2 x	4

"A3"

Total observed counts: 205

Category	Counts	Category	Counts	Category	Counts
A3 A4	176	A3 A5	0	A3 A6	0
A3 A8	0	A3 A9	0	A3 A10	0
A3 A11	0	A3 A12	0	A3 A13	0
A3 A14	0	A3 A15	0	A3 A16	0
A3 A17	0	A3 A18	0	A3 A19	0
A3 B1	0	A3 B2	0	A3 C1	0
A3 D1	0	A3 E1	0	A3 E2	0
A3 F1	0	A3 x	29		

"A4"

Total observed counts: 207

Category	Counts	Category	Counts	Category	Counts
A4 A5	158	A4 A6	0	A4 A8	0
A4 A9	0	A4 A10	0	A4 A11	0
A4 A12	0	A4 A13	0	A4 A14	0
A4 A15	0	A4 A16	0	A4 A17	0
A4 A18	0	A4 A19	0	A4 B1	0
A4 B2	0	A4 C1	0	A4 D1	0
A4 E1	0	A4 E2	0	A4 F1	0
A4 x	49				

"A5"

Total observed counts: 159

Category	Counts	Category	Counts	Category	Counts
A5 A6	140	A5 A8	2	A5 A9	0

A5A10	0	A5A11	0	A5A12	0
A5A13	0	A5A14	0	A5A15	0
A5A16	0	A5A17	0	A5A18	0
A5A19	0	A5 B1	0	A5 B2	0
A5 C1	0	A5 D1	0	A5 E1	0
A5 E2	0	A5 F1	0	A5 x	17

"A6"

Total observed counts: 140

Category	Counts	Category	Counts	Category	Counts
A6A8	98	A6A9	21	A6A10	7
A6A11	7	A6A12	0	A6A13	0
A6A14	0	A6A15	0	A6A16	0
A6A17	0	A6A18	0	A6A19	0
A6 B1	0	A6 B2	0	A6 C1	0
A6 D1	0	A6 E1	0	A6 E2	0
A6 F1	0	A6 x	7		

"A8"

Total observed counts: 100

Category	Counts	Category	Counts	Category	Counts
A8A9	73	A8A10	14	A8A11	13
A8A12	0	A8A13	0	A8A14	0
A8A15	0	A8A16	0	A8A17	0
A8A18	0	A8A19	0	A8 B1	0
A8 B2	0	A8 C1	0	A8 D1	0
A8 E1	0	A8 E2	0	A8 F1	0
A8 x	0				

"A9"

Total observed counts: 94

Category	Counts	Category	Counts	Category	Counts
A9A10	46	A9A11	47	A9A12	0
A9A13	0	A9A14	0	A9A15	0
A9A16	0	A9A17	0	A9A18	0
A9A19	0	A9 B1	0	A9 B2	0
A9 C1	0	A9 D1	0	A9 E1	0
A9 E2	0	A9 F1	0	A9 x	1

"A10"

Total observed counts: 67

Category	Counts	Category	Counts	Category	Counts
A10A11	67	A10A12	0	A10A13	0
A10A14	0	A10A15	0	A10A16	0
A10A17	0	A10A18	0	A10A19	0
A10 B1	0	A10 B2	0	A10 C1	0
A10 D1	0	A10 E1	0	A10 E2	0
A10 F1	0	A10 x	0		

"A11"

Total observed counts: 134

Category	Counts	Category	Counts	Category	Counts
A11A12	73	A11A13	6	A11A14	0
A11A15	0	A11A16	0	A11A17	0
A11A18	0	A11A19	0	A11 B1	47
A11 B2	0	A11 C1	1	A11 D1	0
A11 E1	6	A11 E2	0	A11 F1	0
A11 x	1				

"A12"

Total observed counts: 73

Category	Counts	Category	Counts	Category	Counts
----------	--------	----------	--------	----------	--------

A12A13	72	A12A14	0	A12A15	0
A12A16	0	A12A17	0	A12A18	0
A12A19	0	A12 F1	0	A12 x	1

"A13"

Total observed counts: 78

Category	Counts	Category	Counts	Category	Counts
A13A14	76	A13A15	0	A13A16	0
A13A17	0	A13A18	0	A13A19	0
A13 F1	0	A13 x	2		

"A14"

Total observed counts: 76

Category	Counts	Category	Counts	Category	Counts
A14A15	43	A14A16	4	A14A17	0
A14A18	0	A14A19	0	A14 F1	0
A14 x	29				

"A15"

Total observed counts: 43

Category	Counts	Category	Counts	Category	Counts
A15A16	19	A15A17	2	A15A18	0
A15A19	0	A15 x	22		

"A16"

Total observed counts: 20

Category	Counts	Category	Counts	Category	Counts
A16A17	17	A16A18	0	A16A19	0
A16 x	3				

"A17"

Total observed counts: 23

Category	Counts	Category	Counts	Category	Counts

A17 A18	22	A17 A19	0	A17 x	1
---------	----	---------	---	-------	---

"A18"

Total observed counts: 22

Category	Counts	Category	Counts	Category	Counts
A18 A19	18	A18 x	4		

"A19"

Total observed counts: 18

Category	Counts	Category	Counts	Category	Counts
A19 x	18				

"B1"

Total observed counts: 47

Category	Counts	Category	Counts	Category	Counts
B1 B2	11	B1 C1	1	B1 D1	6
B1 E1	23	B1 E2	2	B1 A16	0
B1 A17	0	B1 A18	0	B1 A19	0
B1 x	4				

"B2"

Total observed counts: 11

Category	Counts	Category	Counts	Category	Counts
B2 A16	0	B2 A17	0	B2 A18	0
B2 A19	0	B2 x	11		

"C1"

Total observed counts: 2

Category	Counts	Category	Counts	Category	Counts
C1 A16	0	C1 A17	0	C1 A18	0
C1 A19	0	C1 x	2		

"D1"

Total observed counts: 6

Category	Counts	Category	Counts	Category	Counts
D1 A17	0	D1 A18	0	D1 A19	0
D1 x	6				

"E1"

Total observed counts: 29

Category	Counts	Category	Counts	Category	Counts
E1 E2	21	E1 A17	0	E1 A18	0
E1 A19	0	E1 x	8		

"E2"

Total observed counts: 23

Category	Counts	Category	Counts	Category	Counts
E2 A17	4	E2 A18	0	E2 A19	0
E2 x	19				

"F1"

Total observed counts: 4

Category	Counts	Category	Counts	Category	Counts
F1 A16	1	F1 A17	0	F1 A18	0
F1 A19	0	F1 x	3		

"B1aux"

Total observed counts: 47

Category	Counts	Category	Counts	Category	Counts
B1ab	18	B1a0	2	B10b	27

"C1aux"

Total observed counts: 2

Category	Counts	Category	Counts	Category	Counts
C1ab	2	C1a0	0	C10b	0

"D1aux"

Total observed counts: 6



Category	Counts	Category	Counts	Category	Counts
D1ab	0	D1a0	6	D10b	0

"A15aux"

Total observed counts: 43

Category	Counts	Category	Counts	Category	Counts
A15ab	41	A15a0	2	A150b	0

"A16aux"

Total observed counts: 20

Category	Counts	Category	Counts	Category	Counts
A16ab	20	A16a0	0	A160b	0

"A17aux"

Total observed counts: 23

Category	Counts	Category	Counts	Category	Counts
A17ab	19	A17a0	4	A170b	0

"A18aux"

Total observed counts: 22

Category	Counts	Category	Counts	Category	Counts
A18ab	22	A18a0	0	A180b	0

"A19aux"

Total observed counts: 18

Category	Counts	Category	Counts	Category	Counts
A19ab	10	A19a0	2	A190b	6

"E1aux"

Total observed counts: 29

Category	Counts	Category	Counts	Category	Counts
E1ab	15	E1a0	4	E10b	10

## Parameter Estimates

Parameter	Estimate	s.e.
-----------	----------	------

sA1	0.737591	--na--
sA2	0.951512	--na--
sA3	0.762647	--na--
sA4	0.619959	--na--
sA5	0.550298	--na--
sA6	0.500407	--na--
sA8	0.649291	--na--
sA9	0.722267	--na--
sA10	0.731801	--na--
sA11	0.734102	--na--
sA12	0.732773	--na--
sA13	0.801224	--na--
sA14	0.896879	--na--
sA15	0.687684	--na--
sA16	0.441951	--na--
sA17	0.971116	--na--
phiB1B2	0.323061	--na--
phiB1C1	0.0209771	--na--
phiB1D1	0.222553	--na--
phiB1E1	0.265111	--na--
psiA1	0.480943	--na--
psiA2	0.576361	--na--
sC1	0.0902459	--na--
sE1	0.62769	--na--
sE2	0.271663	--na--
sF1	0.284524	--na--
pA1	0.699846	--na--

pA2	0.493503	--na--
pA3	0.663272	--na--
pA4	0.576875	--na--
pA5	0.768264	--na--
pA6	0.699696	--na--
pA8	0.482464	--na--
pA9	0.469603	--na--
pA10	0.499148	--na--
pA12	0.702719	--na--
pA17b	0.809542	--na--
pA18a	2	--na--
pA18b	2	--na--
pA19a	0.623805	--na--
pA19b	0.88998	--na--
pB1a	0.449237	--na--
pB1b	0.671822	--na--
pB2	0.862899	--na--
pC1a	0.664404	--na--
pC1b	0.664404	--na--
pD1a	0.832415	--na--
pD1b	-0.492145	--na--
pE1a	0.565419	--na--
pE1b	0.708148	--na--
pE2	0.912966	--na--
pA16a	0.918288	--na--
pA16b	0.918288	--na--
sA18	0.818938	--na--

sA19	0.937372	--na--
pF1	-0.422136	--na--
pA15b	0.991544	--na--

### Convenience Functions

Name	Estimate	s.e.
psiB	0.519057	--na--
psiF	0.423639	--na--
qA1	0.300154	--na--
qA2	0.506497	--na--
qA3	0.336728	--na--
qA4	0.423125	--na--
qA5	0.231736	--na--
qA6	0.300304	--na--
qA8	0.517536	--na--
qA9	0.530397	--na--
qA10	0.500852	--na--
qA11	0	--na--
qA12	0.297281	--na--
qA13	0	--na--
qA14	0	--na--
qA15a	0	--na--
qA15b	0.00845625	--na--
qA15	0	--na--
pA15	1	--na--
qA16a	0.0817118	--na--
qA16b	0.0817118	--na--

qA16	0.00667682	--na--
pA16	0.993323	--na--
qA17a	0	--na--
qA17b	0.190458	--na--
qA17	0	--na--
pA17	1	--na--
qA18a	-1	--na--
qA18b	-1	--na--
qA18	1	--na--
pA18	2.15519e-07	--na--
qA19a	0.376195	--na--
qA19b	0.11002	--na--
qA19	0.0413889	--na--
pA19	0.958611	--na--
qE1a	0.434581	--na--
qE1b	0.291852	--na--
qE1	0.126834	--na--
pE1	0.873166	--na--
qE2	0.087034	--na--
qD1a	0.167585	--na--
qD1b	1.49215	--na--
qD1	0.250061	--na--
pD1	0.749939	--na--
qB1a	0.550763	--na--
qB1b	0.328178	--na--
qB1	0.180748	--na--
pB1	0.819252	--na--

qB2	0.137101	--na--
qC1a	0.335596	--na--
qC1b	0.335596	--na--
qC1	0.112625	--na--
pC1	0.887375	--na--
qF1	1.42214	--na--
xA19	1	--na--
xA18	0.101424	--na--
xA17	0.264122	--na--
xA16	0.0288844	--na--
xA15	0.558134	--na--
xA14	0.608768	--na--
xA13	0.103121	--na--
xA12	0.198776	--na--
xB2	1	--na--
xC1	0.909771	--na--
xD1	1	--na--
xE1	0.412099	--na--
xE2	0.728337	--na--
xB1	0.284248	--na--
xF1	0.715531	--na--
xA11	0.307594	--na--
xA10	0.265898	--na--
xA9	0.365657	--na--
xA8	0.417812	--na--
xA6	0.491107	--na--
xA5	0.573394	--na--

xA4	0.522824	--na--
xA3	0.517188	--na--
xA2	0.370169	--na--
xA1	0.226886	--na--
x0	0.31264	--na--
gamma_B1A16	0.000213209	--na--
gamma_B1A17	0.000500412	--na--
gamma_A14A16	0.117881	--na--
gamma_A11A16	1.46577e-05	--na--
gamma_A11A17	3.44022e-05	--na--
pA14	1	--na--
pA11	1	--na--
pA17a	1	--na--
sB1	0	--na--
sD1	0	--na--
pA13	1	--na--
pA15a	1	--na--