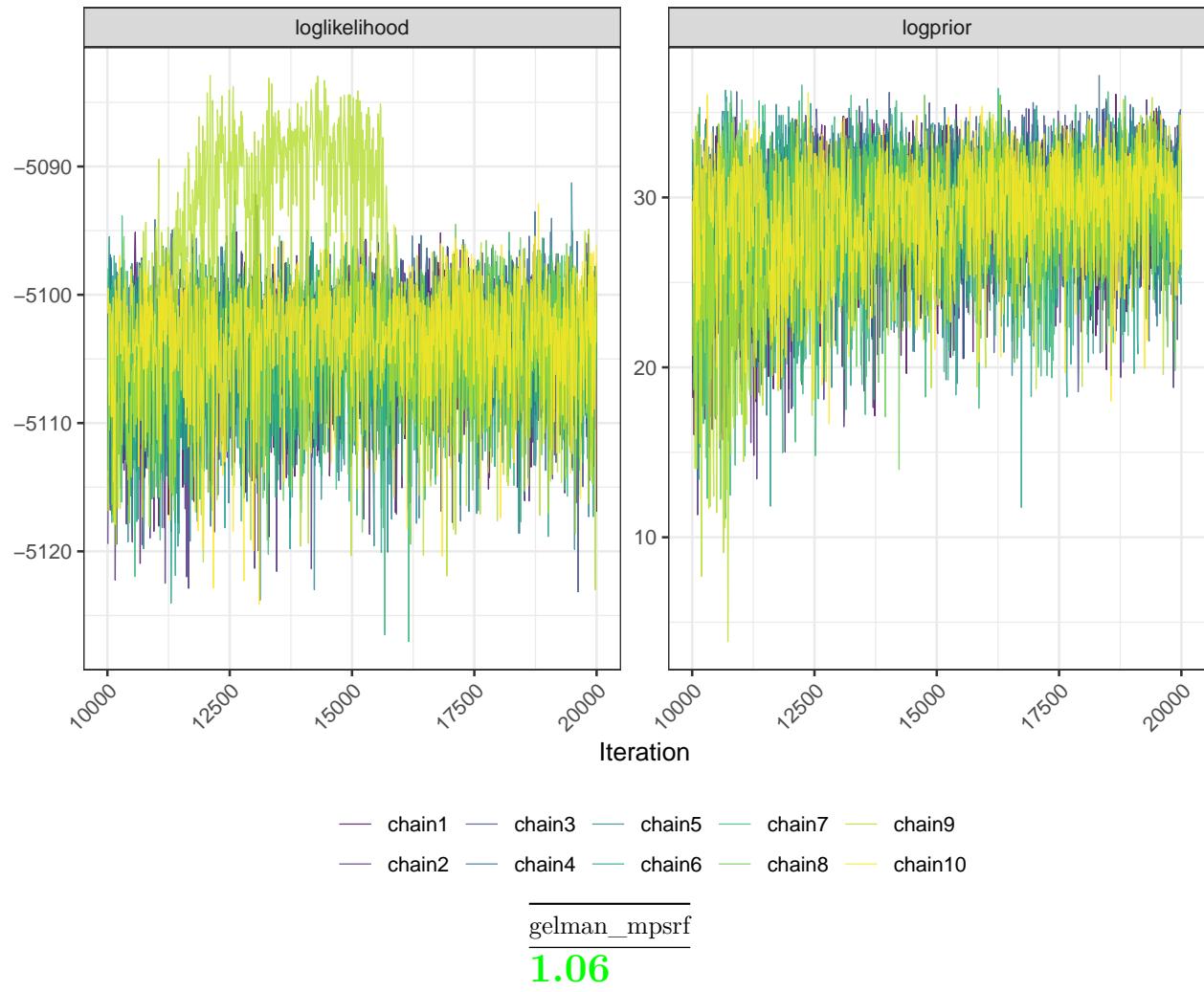


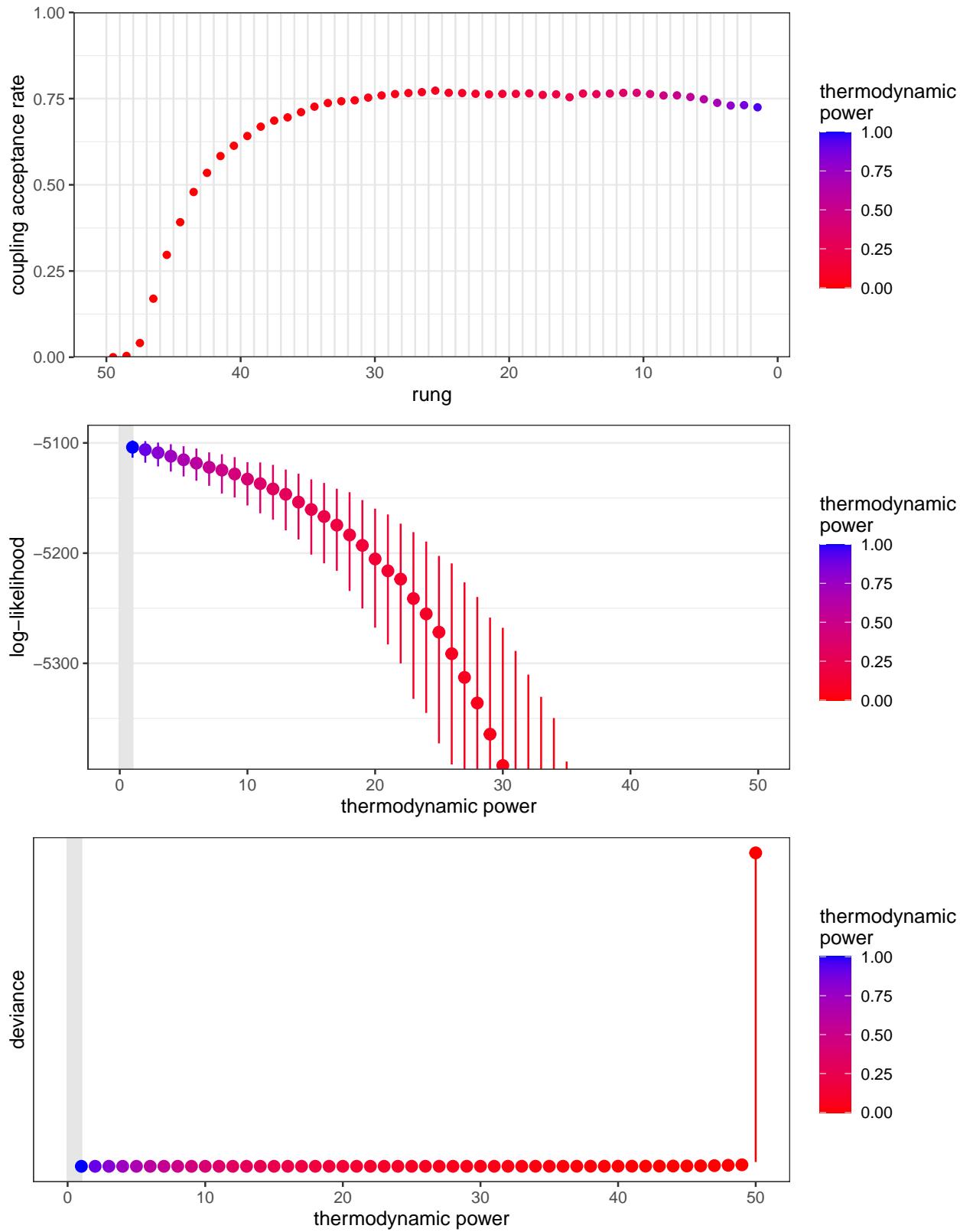
BRA1 with Standard Input

Fit Diagnostics

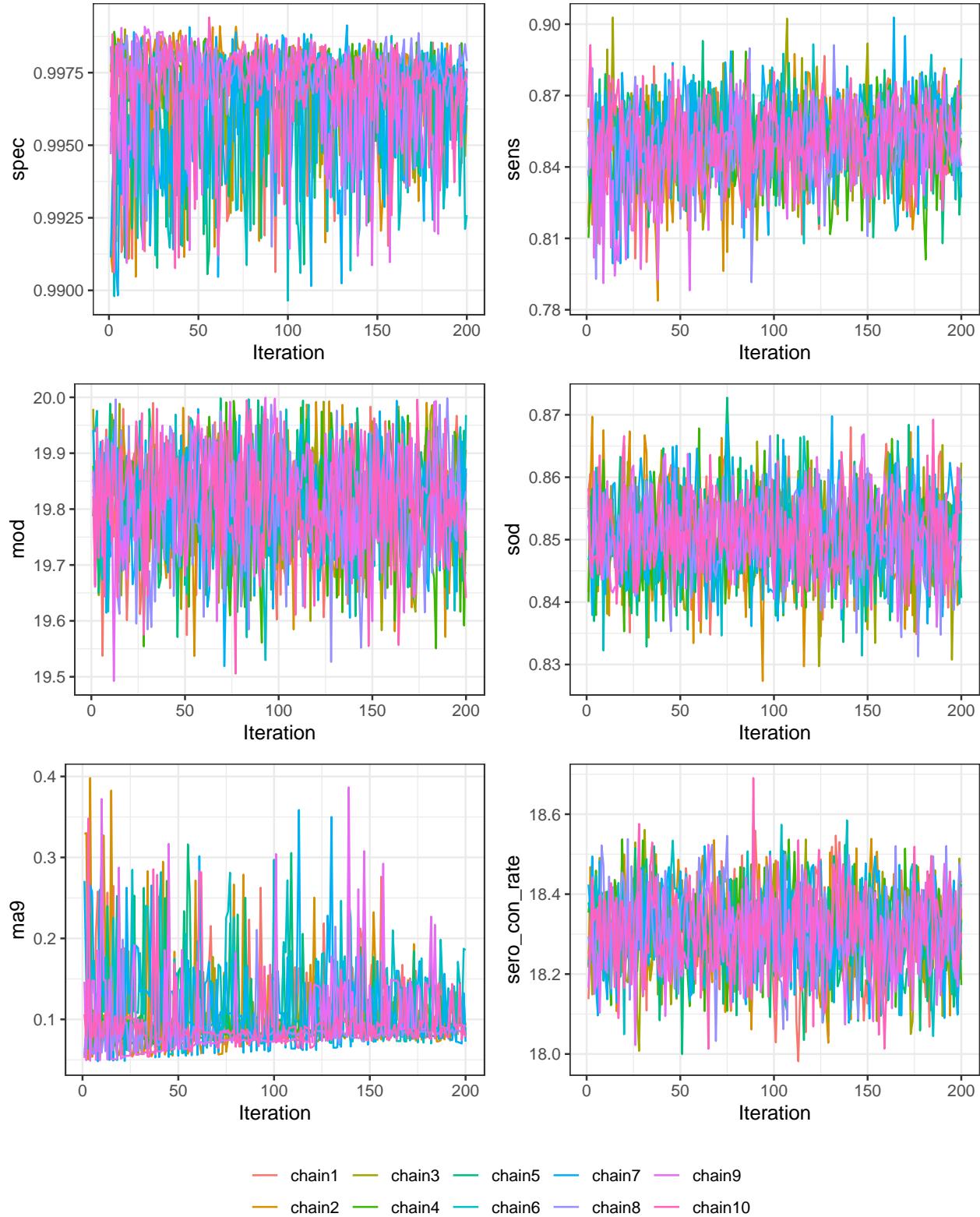
Log Likelihood & Prior Plot



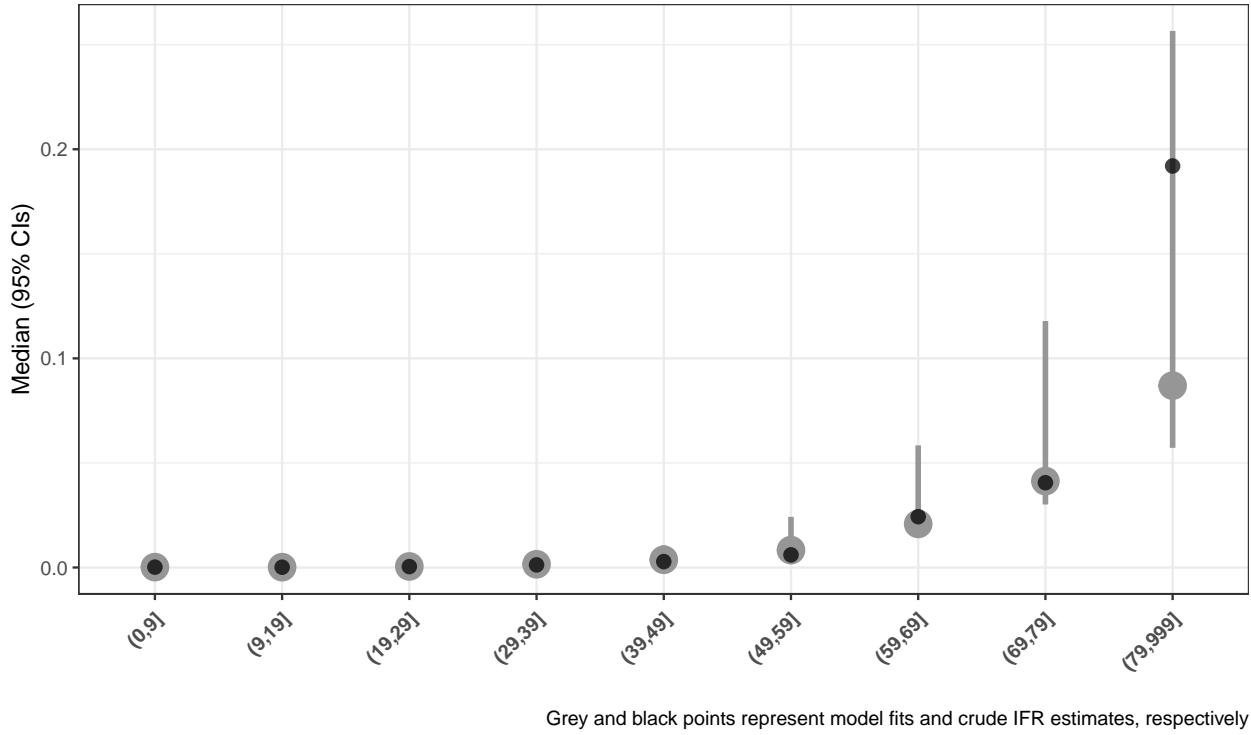
Metropolis Coupling Acceptance Plot



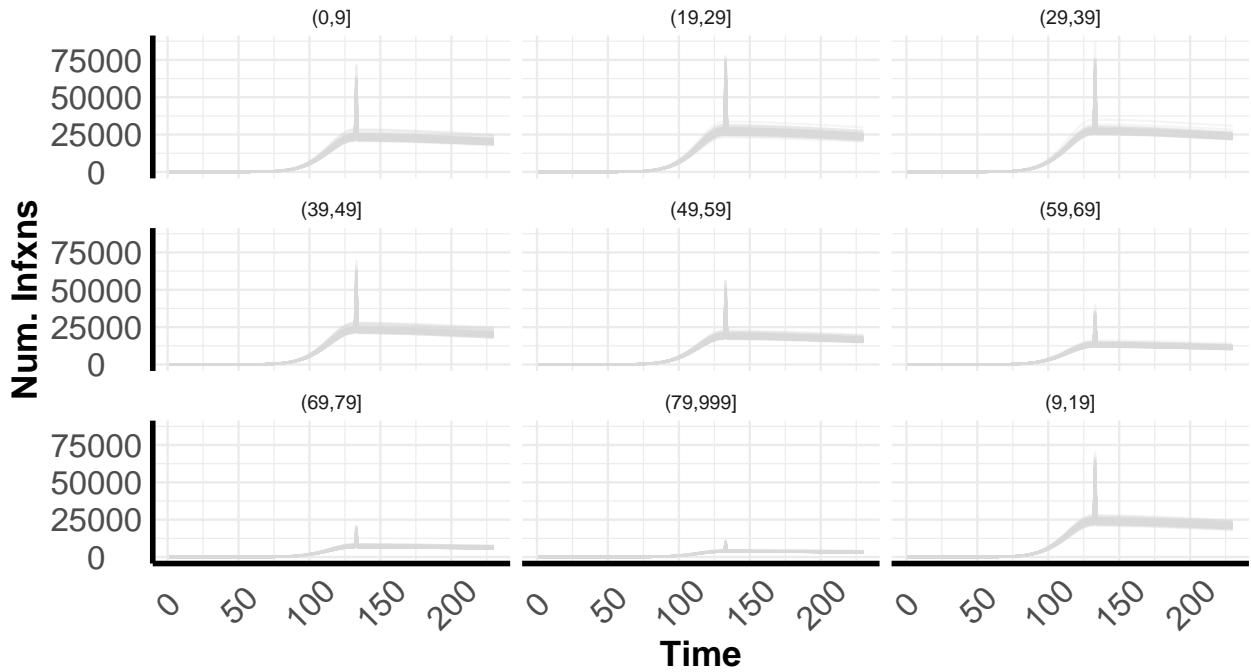
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



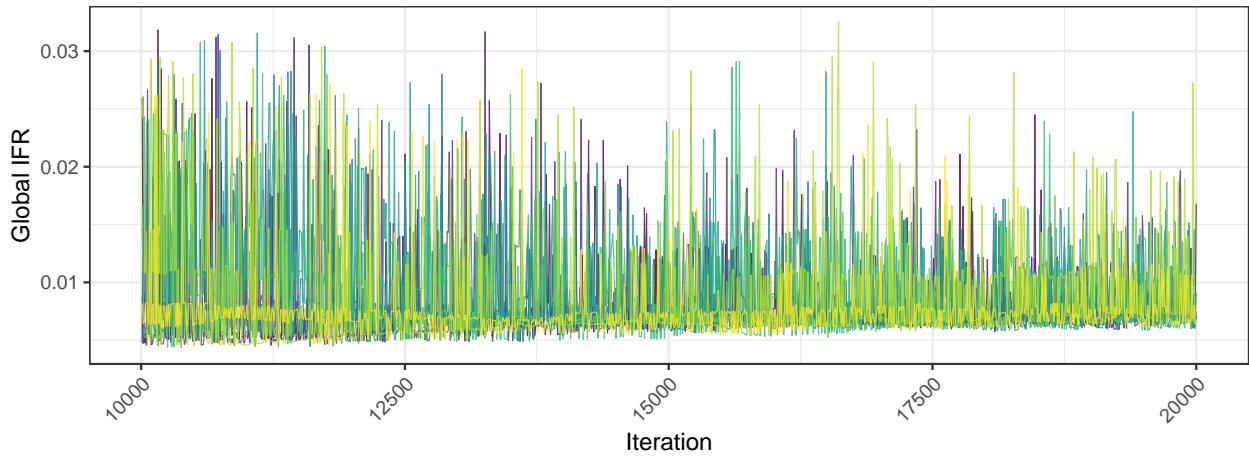
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0001	0.0001	0.0002	0.0002	0.0005	0.0009	400.6106	-1.7422	0.0875
(9,19]	ma2	0.0001	0.0001	0.0002	0.0002	0.0004	0.0008	419.2096	-1.7203	0.0908
(19,29]	ma3	0.0003	0.0004	0.0005	0.0006	0.0014	0.0024	403.4354	-1.8750	0.0688
(29,39]	ma4	0.0009	0.0011	0.0015	0.0018	0.0044	0.0079	399.9792	-1.8914	0.0667
(39,49]	ma5	0.0023	0.0027	0.0037	0.0044	0.0106	0.0174	384.7371	-1.9244	0.0626
(49,59]	ma6	0.0049	0.0061	0.0083	0.0098	0.0242	0.0399	381.6816	-1.8018	0.0787
(59,69]	ma7	0.0130	0.0152	0.0208	0.0243	0.0584	0.0980	404.5690	-2.1569	0.0390
(69,79]	ma8	0.0253	0.0301	0.0413	0.0485	0.1179	0.1996	391.3778	-1.7970	0.0794
(79,999]	ma9	0.0475	0.0572	0.0870	0.1028	0.2566	0.3981	354.4356	-1.4526	0.1389

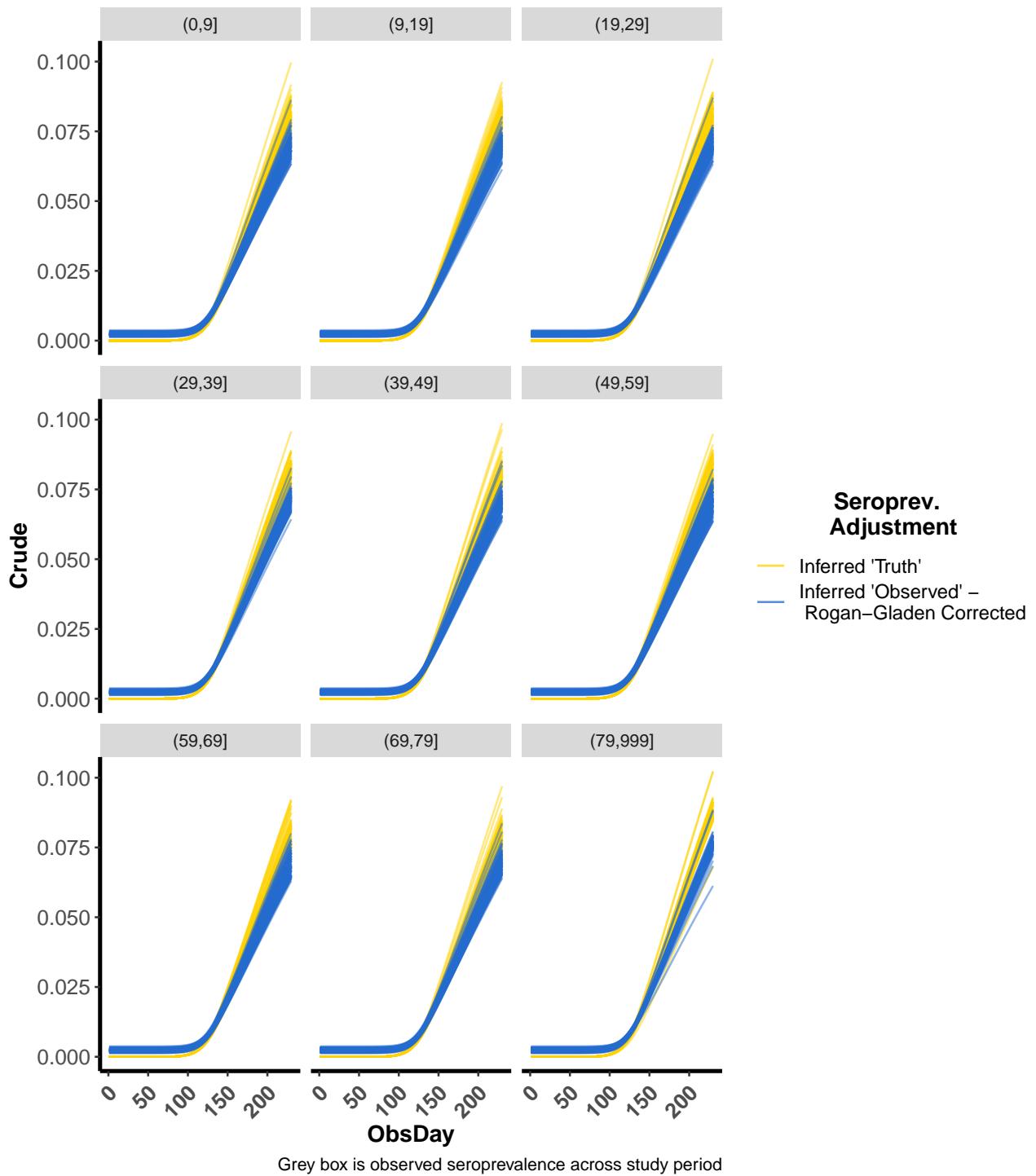
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0043	0.0052	0.007	0.0082	0.02	0.0327	2862.997	6.688	0

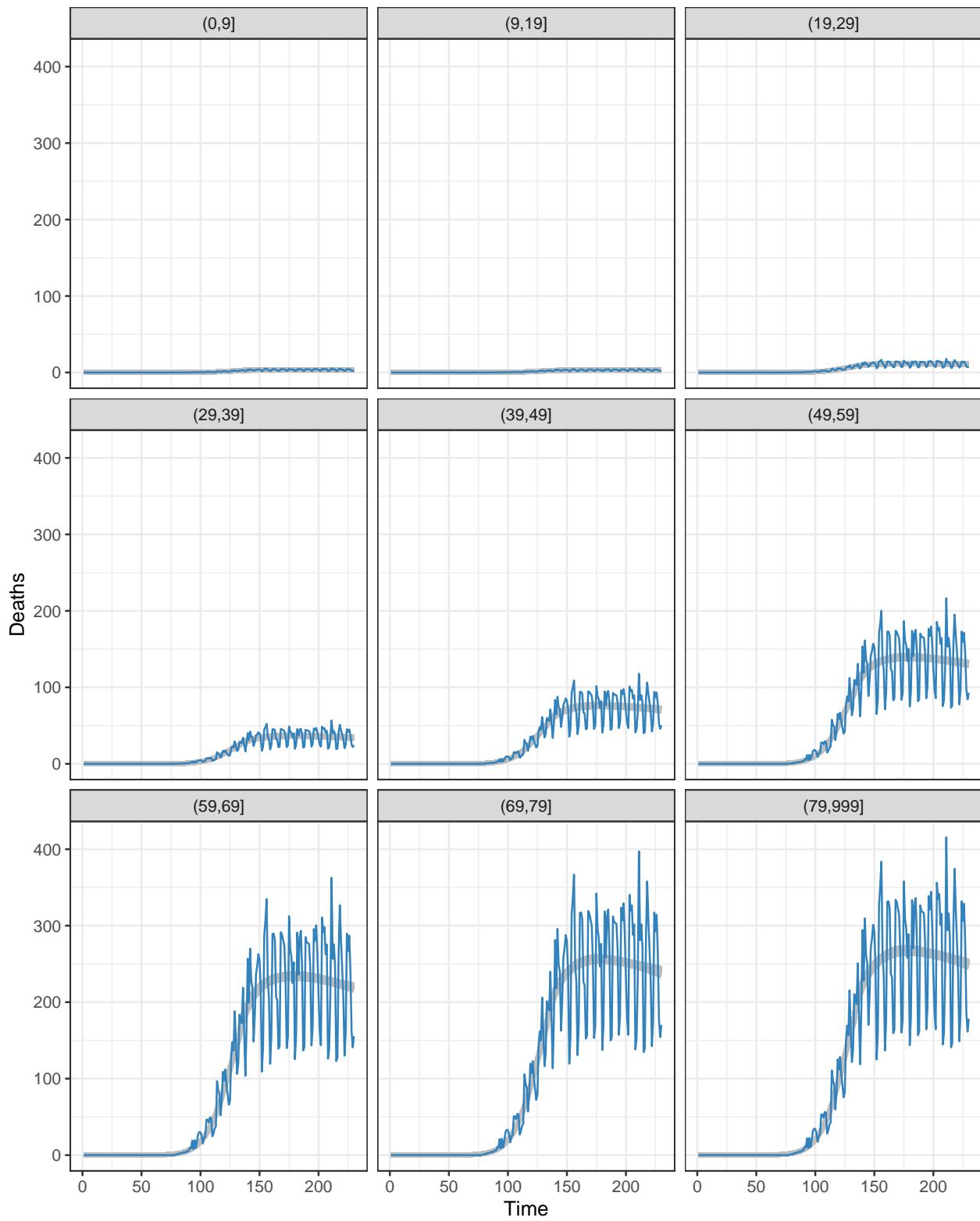
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0046	0.0052	0.0068	0.0080	0.0187	0.0302	1000.0000	2.4371	0.0205
chain2	0.0045	0.0048	0.0063	0.0076	0.0215	0.0314	1000.0000	0.4115	0.3666
chain3	0.0051	0.0058	0.0079	0.0078	0.0109	0.0183	489.9897	-1.9844	0.0557
chain4	0.0052	0.0057	0.0066	0.0069	0.0098	0.0206	393.5288	-3.4353	0.0011
chain5	0.0051	0.0058	0.0075	0.0087	0.0203	0.0293	684.1895	4.6048	0.0000
chain6	0.0043	0.0057	0.0075	0.0097	0.0224	0.0312	76.3642	4.6953	0.0000
chain7	0.0045	0.0050	0.0087	0.0097	0.0235	0.0308	148.2094	3.8654	0.0002
chain8	0.0051	0.0053	0.0066	0.0073	0.0160	0.0285	1000.0000	1.1108	0.2153
chain9	0.0047	0.0049	0.0066	0.0087	0.0247	0.0327	111.0490	2.7356	0.0095
chain10	0.0046	0.0053	0.0071	0.0077	0.0215	0.0288	847.9376	1.3795	0.1541



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

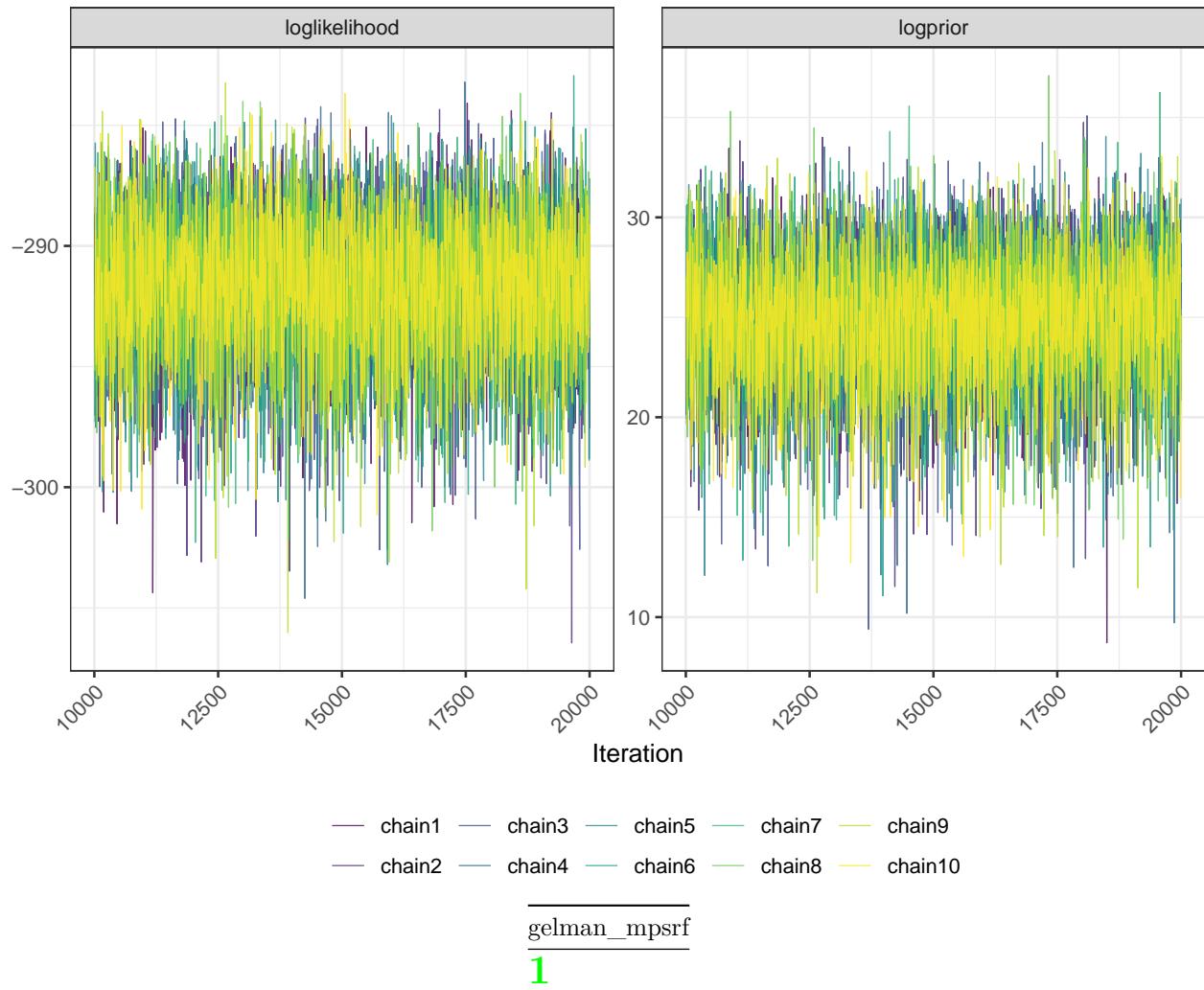
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.5137	2.7238	17.8131	18.5539	39.7311	63.3716	97.3333	2.7229	0.0098
x2	129.9613	130.8223	131.8932	131.9212	133.1891	134.5402	3056.9751	1.4897	0.1315
x3	130.2058	131.3978	133.3970	133.4799	136.0551	139.1443	414.1897	1.7779	0.0821
x4	216.0008	216.5697	224.8202	224.0591	229.7448	229.9995	203.1152	-1.3466	0.1611
y1	0.0000	0.0037	0.1003	0.1434	0.5535	1.2898	733.4461	1.3496	0.1605
y2	0.0685	0.2437	1.4179	1.5905	3.9935	6.6259	95.7697	4.6810	0.0000
y3	10.4390	10.9275	11.9861	11.8835	12.2827	12.4616	281.1040	1.9123	0.0641
y4	10.4388	10.9270	11.9855	11.8829	12.2823	12.4615	281.1141	1.9089	0.0645
y5	10.2347	10.7421	11.8044	11.7036	12.1070	12.2956	268.1661	1.8011	0.0788
Ne1	0.8190	0.9011	0.9967	0.9969	1.0940	1.2025	4027.5816	-0.1669	0.3934
Ne2	0.7968	0.9024	0.9998	0.9994	1.0950	1.1831	4510.5639	1.0923	0.2197
Ne3	0.8191	0.9028	0.9995	0.9995	1.0935	1.1835	3032.0096	1.0059	0.2405
Ne4	0.8316	0.9111	1.0057	1.0059	1.1004	1.2042	2525.1525	0.7764	0.2951
Ne5	0.8599	0.9160	1.0128	1.0123	1.1072	1.2037	1546.3889	1.6256	0.1064
Ne6	0.8307	0.9233	1.0170	1.0176	1.1139	1.1910	1154.2683	0.3087	0.3804
Ne7	0.8077	0.8759	0.9732	0.9734	1.0727	1.1638	518.2152	1.8669	0.0698
Ne8	0.8222	0.8984	0.9941	0.9930	1.0879	1.1716	879.0146	0.4593	0.3590
Ne9	0.8241	0.8989	1.0004	1.0045	1.1263	1.2438	203.6758	-1.4408	0.1413

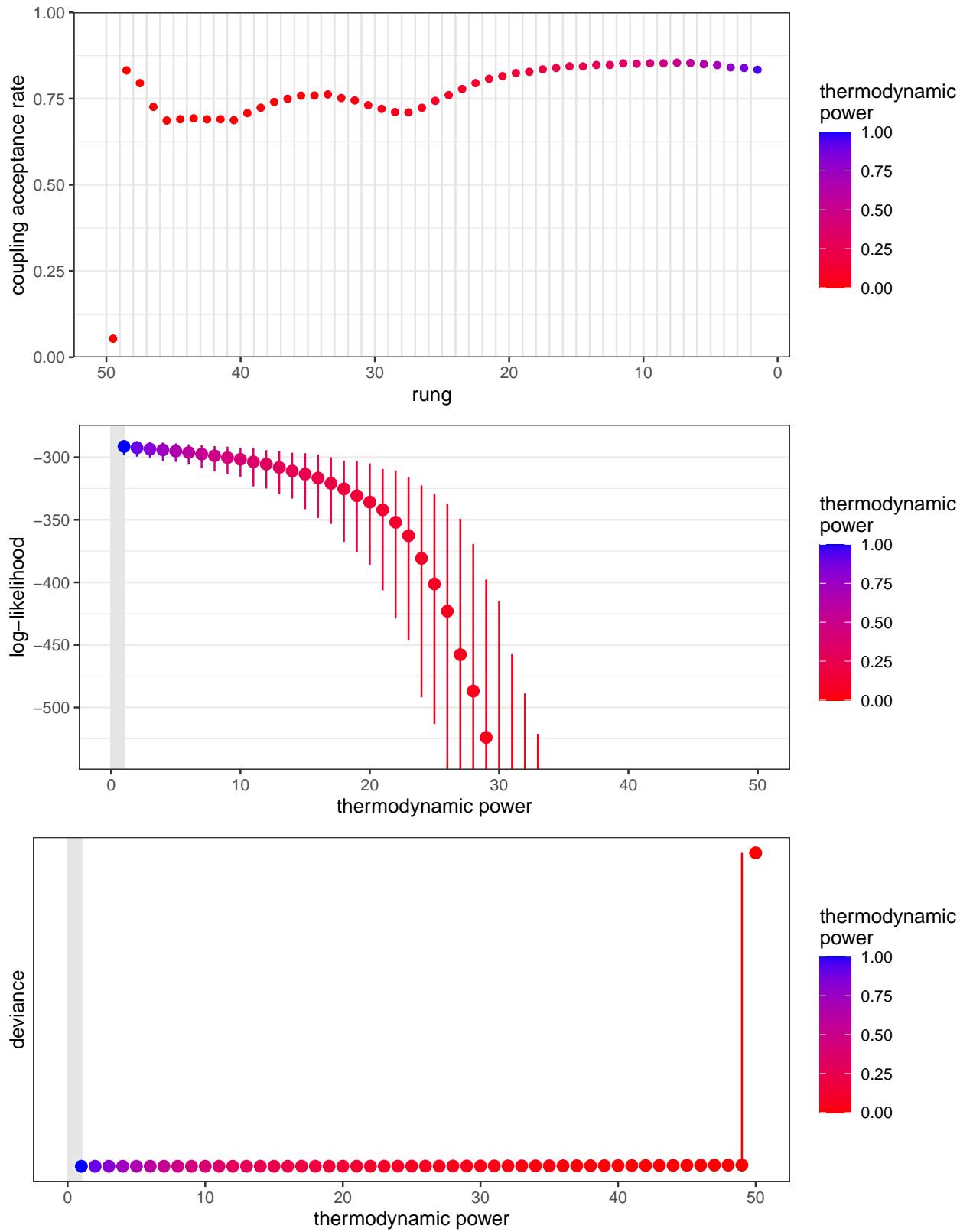
CHE1 with Standard Input

Fit Diagnostics

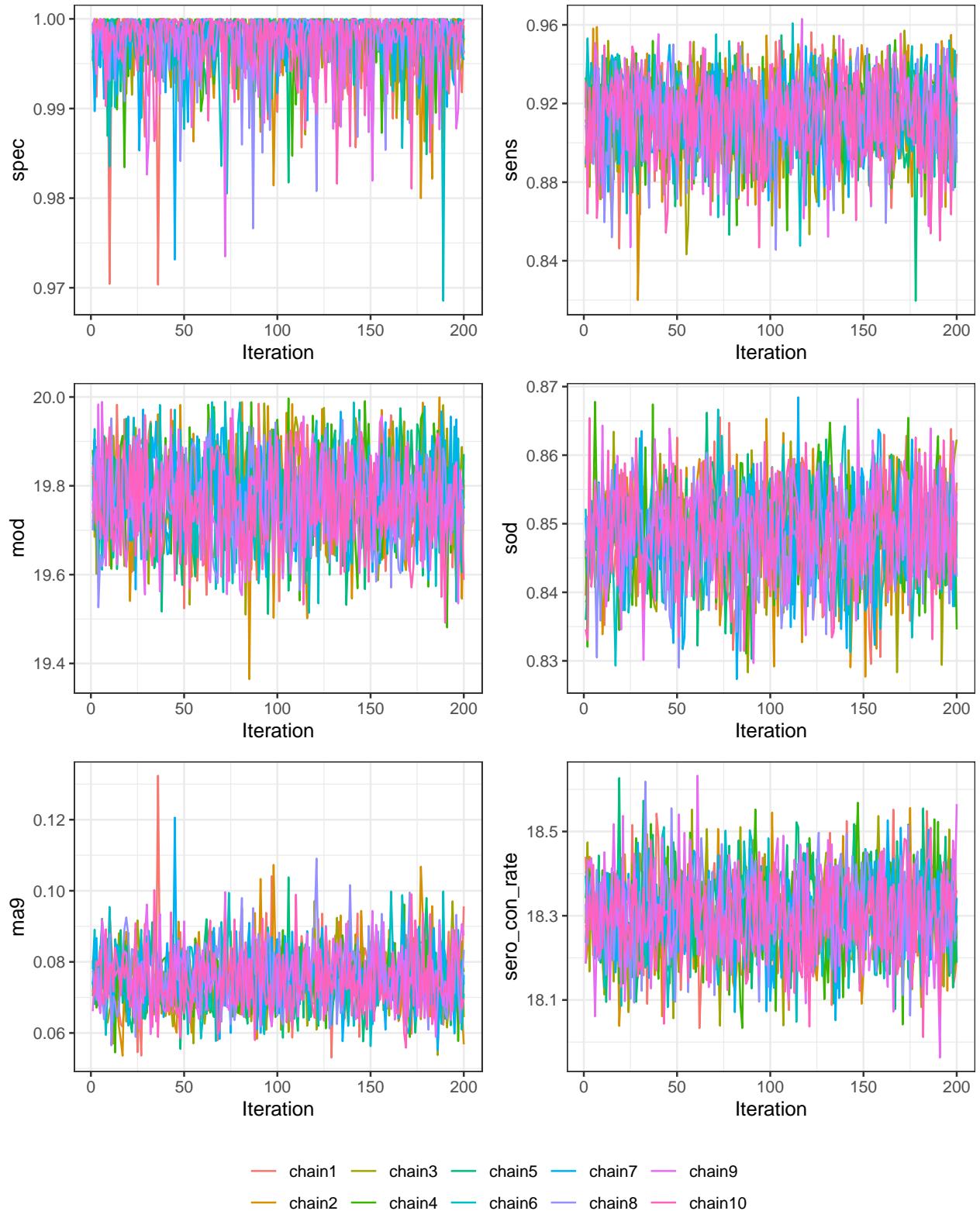
Log Likelihood & Prior Plot



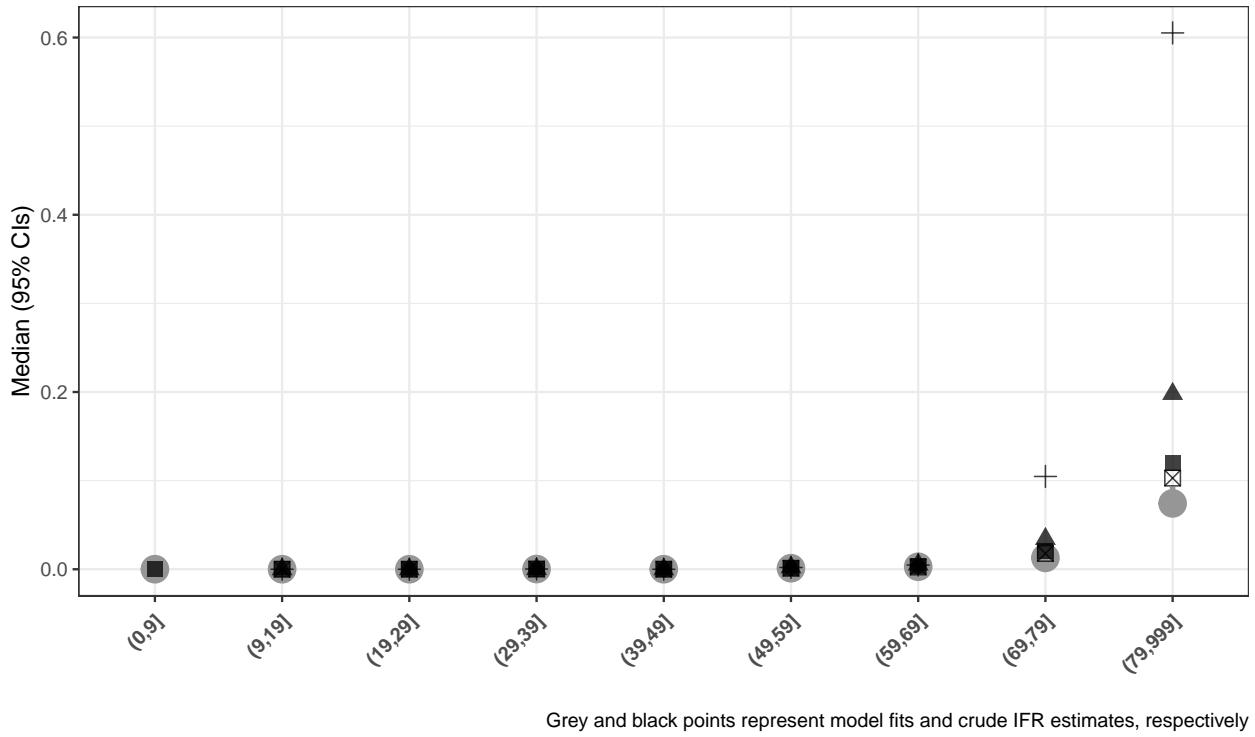
Metropolis Coupling Acceptance Plot



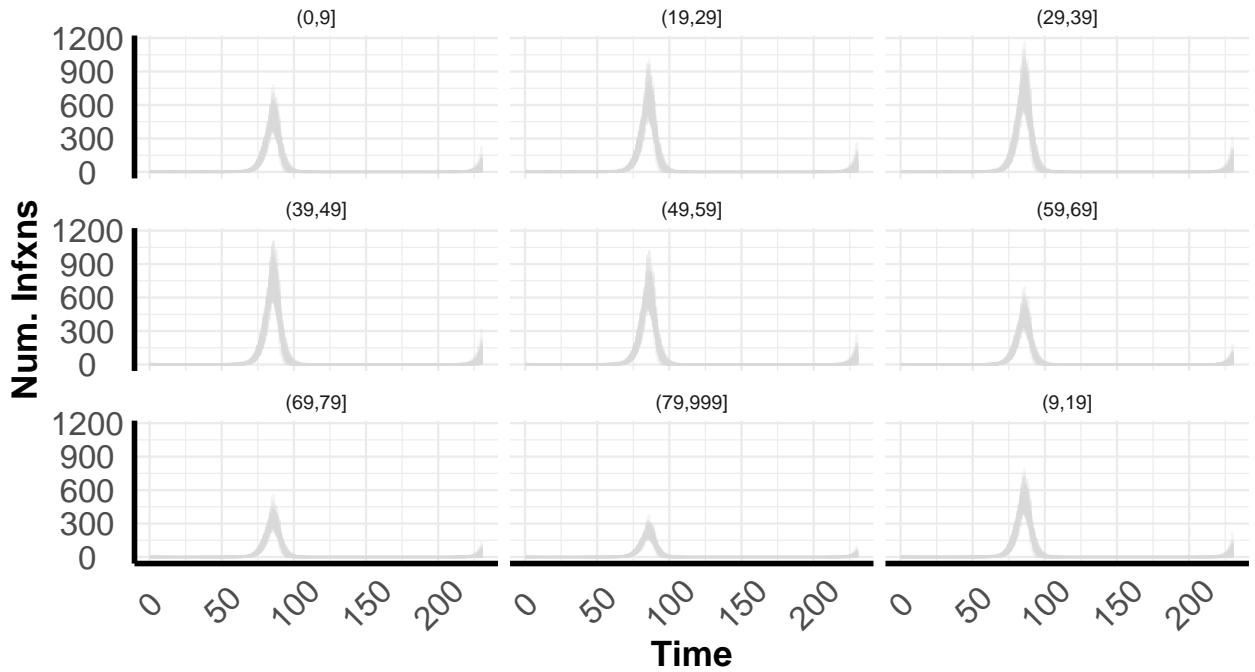
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



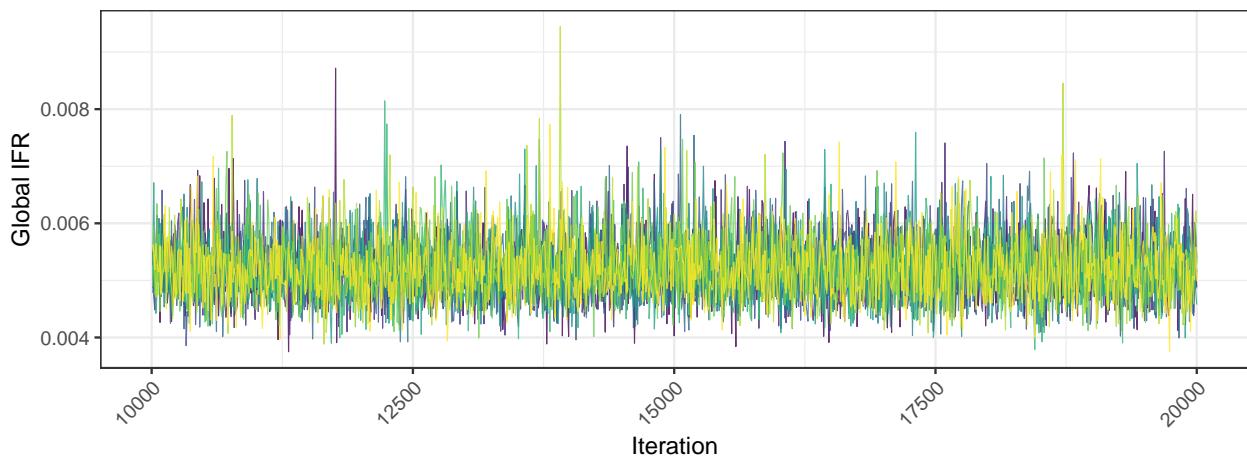
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	9380.161	0.1438	0.3948
(9,19]	ma2	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	9645.372	-2.1594	0.0388
(19,29]	ma3	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	9987.213	-0.1031	0.3968
(29,39]	ma4	0.0000	0.0000	0.0002	0.0003	0.0006	0.0012	10000.000	0.3018	0.3812
(39,49]	ma5	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	8666.771	-0.0123	0.3989
(49,59]	ma6	0.0001	0.0005	0.0012	0.0012	0.0021	0.0032	10000.000	-0.2067	0.3905
(59,69]	ma7	0.0003	0.0014	0.0028	0.0029	0.0046	0.0089	9705.767	0.7334	0.3049
(69,79]	ma8	0.0062	0.0091	0.0128	0.0130	0.0175	0.0235	9208.692	-0.5628	0.3405
(79,999]	ma9	0.0494	0.0605	0.0743	0.0749	0.0930	0.1416	8171.385	-0.9157	0.2623

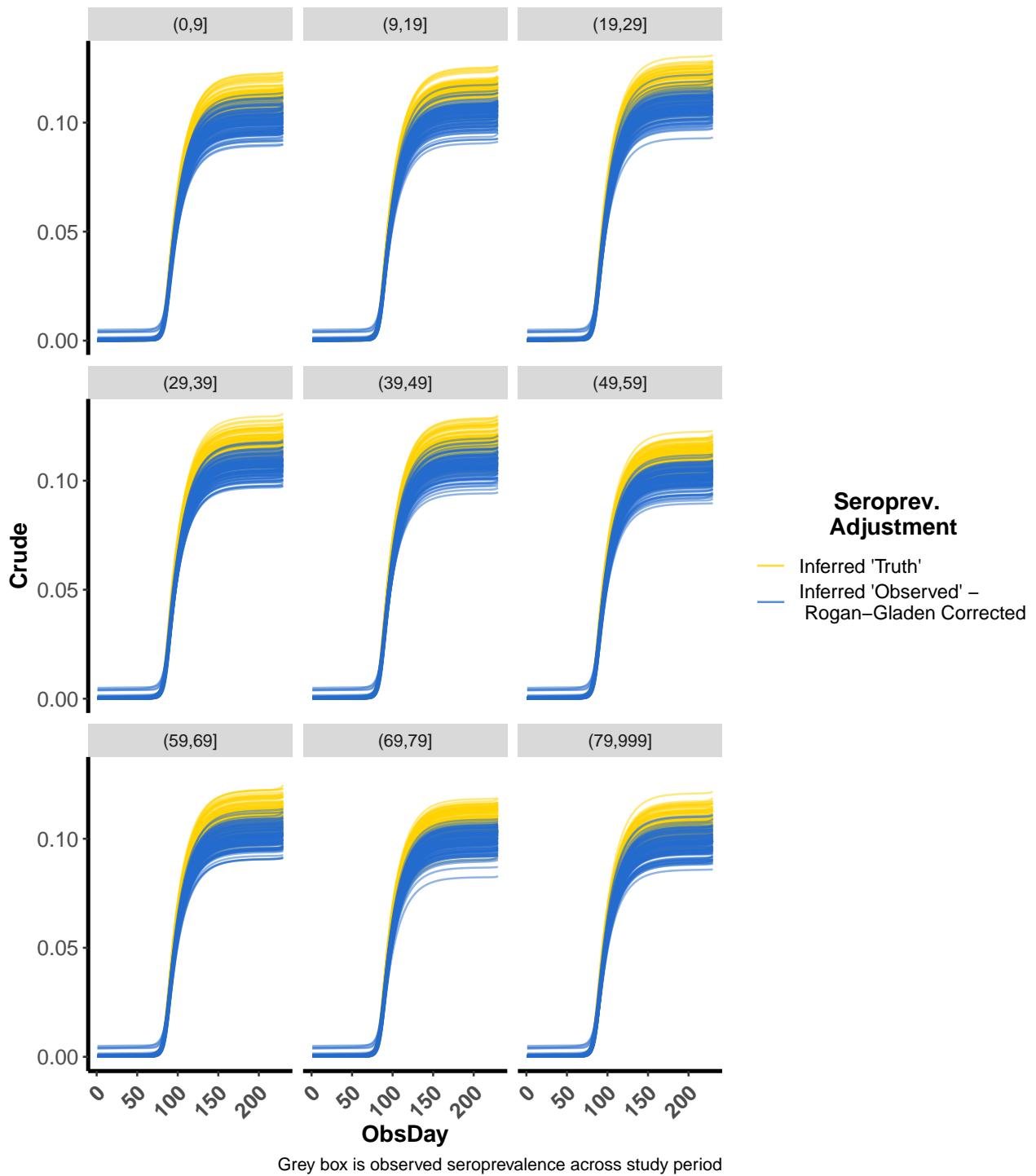
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0035	0.0042	0.0049	0.005	0.006	0.0084	8558.253	-0.4897	0.3539

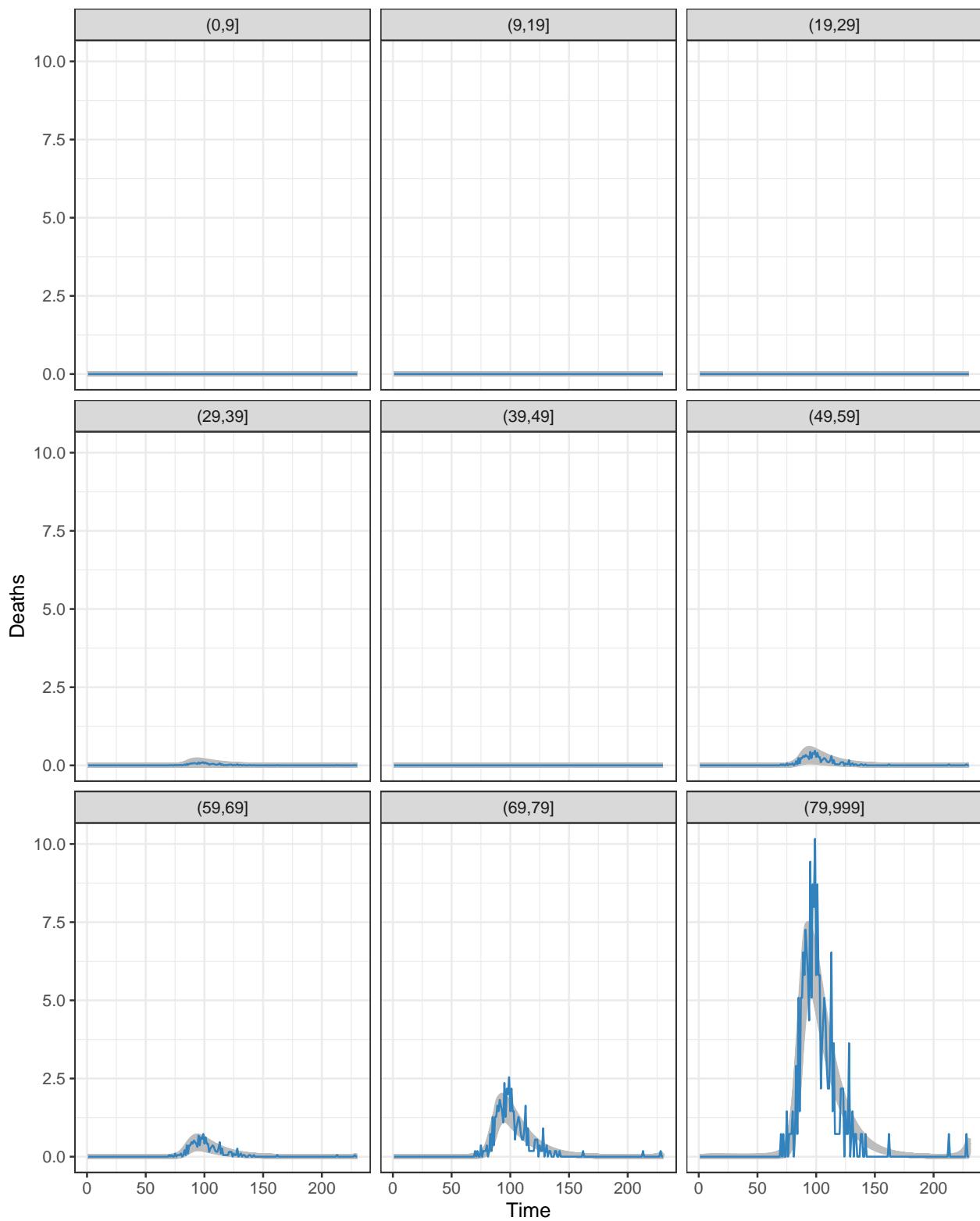
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0037	0.0042	0.0049	0.0050	0.0060	0.0084	1000.0000	1.5082	0.1279
chain2	0.0037	0.0041	0.0049	0.0049	0.0061	0.0072	865.0951	-0.1855	0.3921
chain3	0.0039	0.0042	0.0049	0.0049	0.0059	0.0068	1000.0000	-2.3193	0.0271
chain4	0.0039	0.0042	0.0049	0.0050	0.0059	0.0074	905.0047	-1.8813	0.0680
chain5	0.0039	0.0042	0.0049	0.0050	0.0059	0.0072	1000.0000	-0.6294	0.3273
chain6	0.0038	0.0042	0.0049	0.0050	0.0060	0.0071	1000.0000	1.0188	0.2374
chain7	0.0038	0.0042	0.0049	0.0050	0.0058	0.0076	627.9663	0.6933	0.3137
chain8	0.0040	0.0042	0.0049	0.0050	0.0060	0.0070	793.0476	-0.1220	0.3960
chain9	0.0039	0.0042	0.0049	0.0050	0.0060	0.0084	1000.0000	-0.3320	0.3776
chain10	0.0035	0.0042	0.0049	0.0050	0.0061	0.0071	874.3660	0.4340	0.3631



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



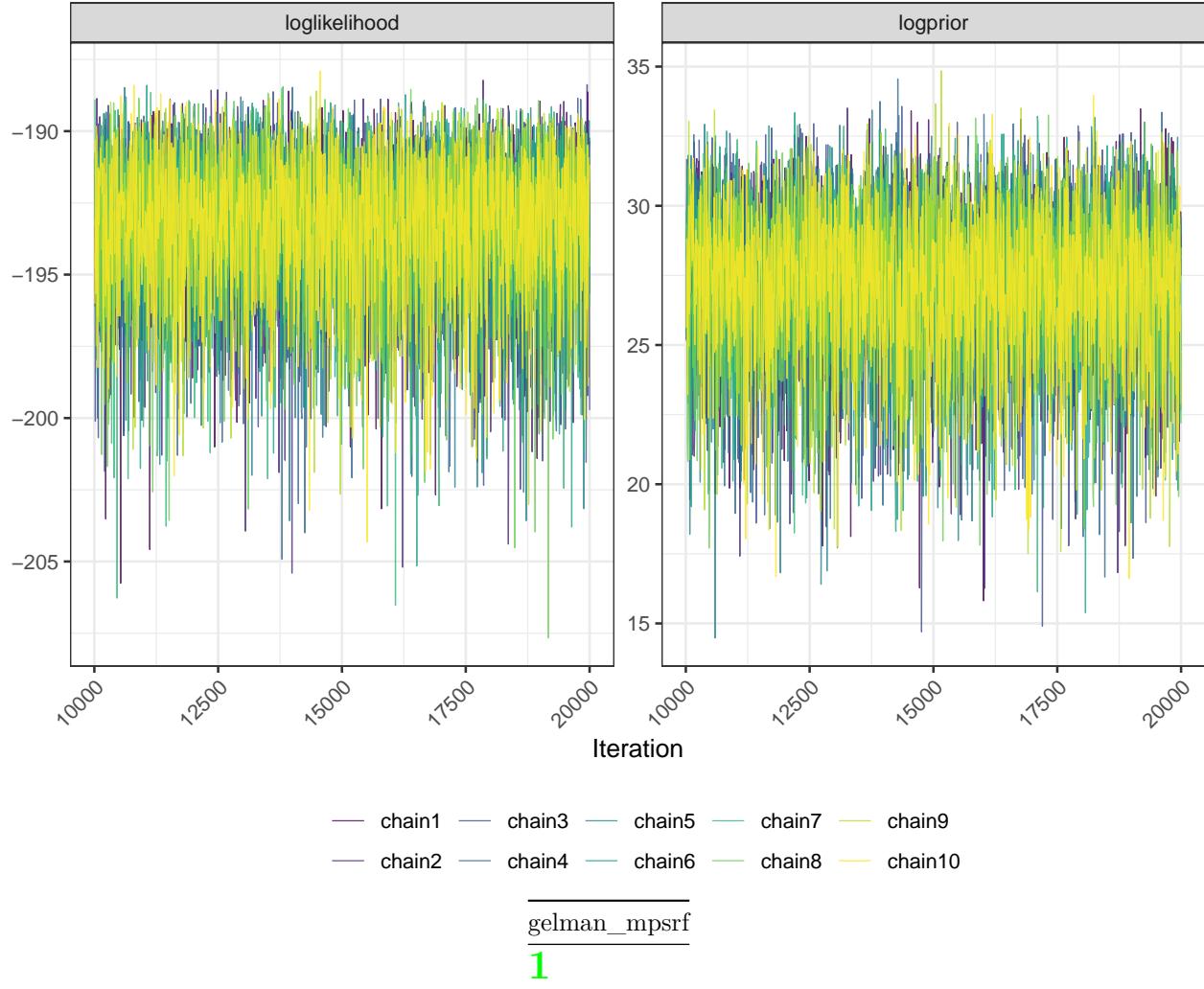
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.4480	49.4673	64.8221	64.6360	80.3981	85.1881	1072.8129	3.0074	0.0043
x2	63.7236	77.0861	88.8098	88.4793	97.0073	106.0594	1584.1788	-1.5389	0.1221
x3	86.7365	93.6895	103.2786	103.8602	114.9608	229.4584	3341.9767	-0.7207	0.3077
x4	214.0028	214.4207	222.3458	222.2449	229.5851	229.9984	4236.8687	1.3367	0.1633
y1	0.0004	0.0650	1.4847	1.6553	4.2107	6.4576	9196.2203	0.1273	0.3957
y2	0.0012	0.1615	3.3966	3.5494	7.5837	8.6011	1339.9610	2.9258	0.0055
y3	2.7482	5.6953	7.9746	7.7179	8.6273	9.0716	767.6508	2.8030	0.0078
y4	0.0001	0.1186	2.5708	2.7484	6.3917	8.0032	2015.7230	-0.5926	0.3347
y5	0.0050	0.4767	3.5776	3.5155	6.3506	7.9877	4466.5940	2.0614	0.0477
Ne1	0.7856	0.8765	0.9758	0.9753	1.0737	1.1549	10000.0000	-0.8379	0.2808
Ne2	0.7935	0.9178	1.0110	1.0107	1.1047	1.1770	9655.2265	1.2097	0.1919
Ne3	0.8688	0.9489	1.0390	1.0393	1.1288	1.2081	9905.1666	-1.9921	0.0549
Ne4	0.8773	0.9519	1.0394	1.0396	1.1272	1.2468	10000.0000	0.1594	0.3939
Ne5	0.8771	0.9525	1.0402	1.0402	1.1271	1.2073	10335.4138	0.1765	0.3928
Ne6	0.8121	0.8948	0.9851	0.9853	1.0783	1.1700	10555.9524	0.1769	0.3928
Ne7	0.8033	0.8937	0.9851	0.9847	1.0763	1.1606	10000.0000	0.0254	0.3988
Ne8	0.7545	0.8627	0.9594	0.9590	1.0562	1.1668	10000.0000	-0.5996	0.3333
Ne9	0.7548	0.8639	0.9582	0.9589	1.0543	1.1321	9428.8124	0.4214	0.3650

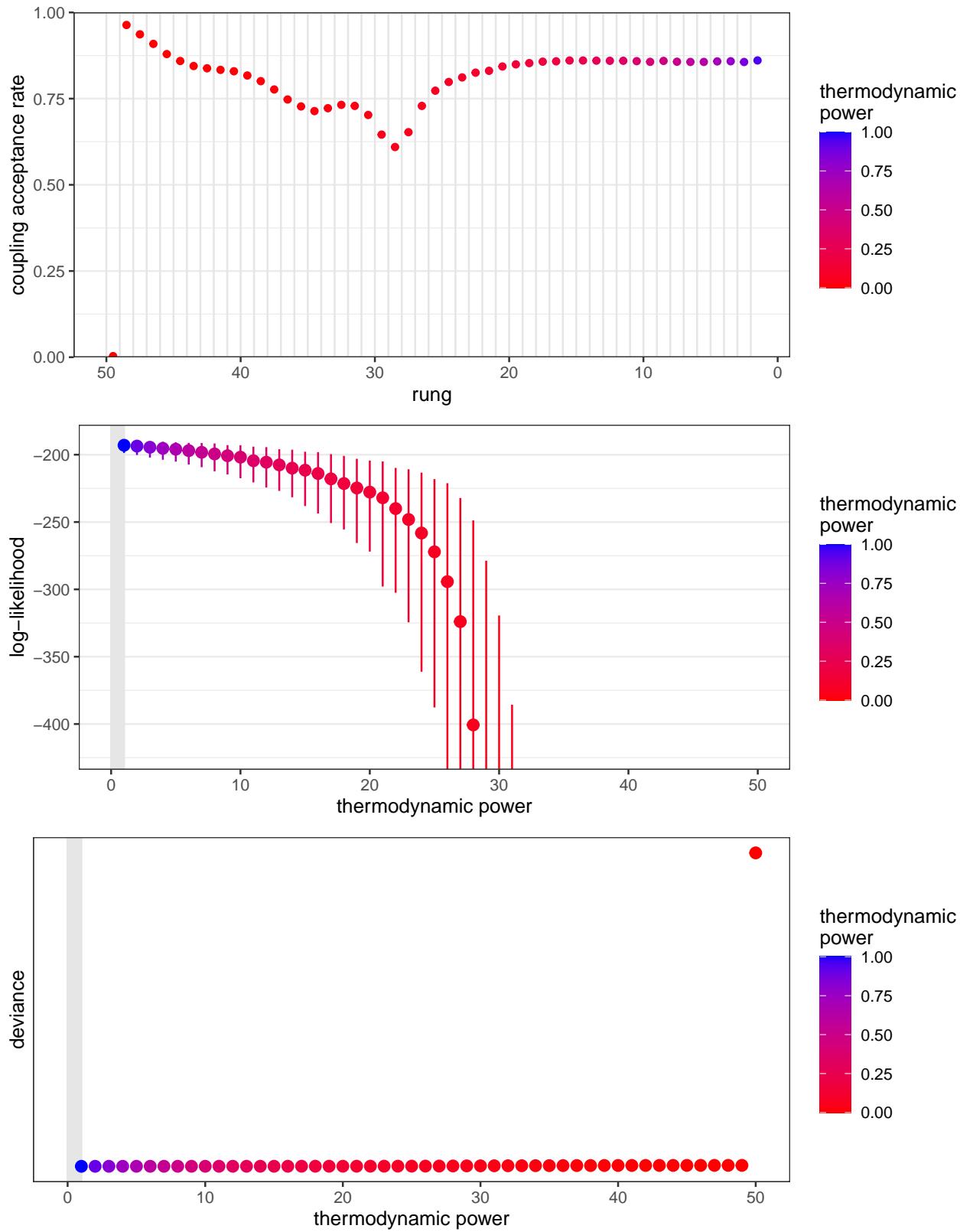
CHE2 with Standard Input

Fit Diagnostics

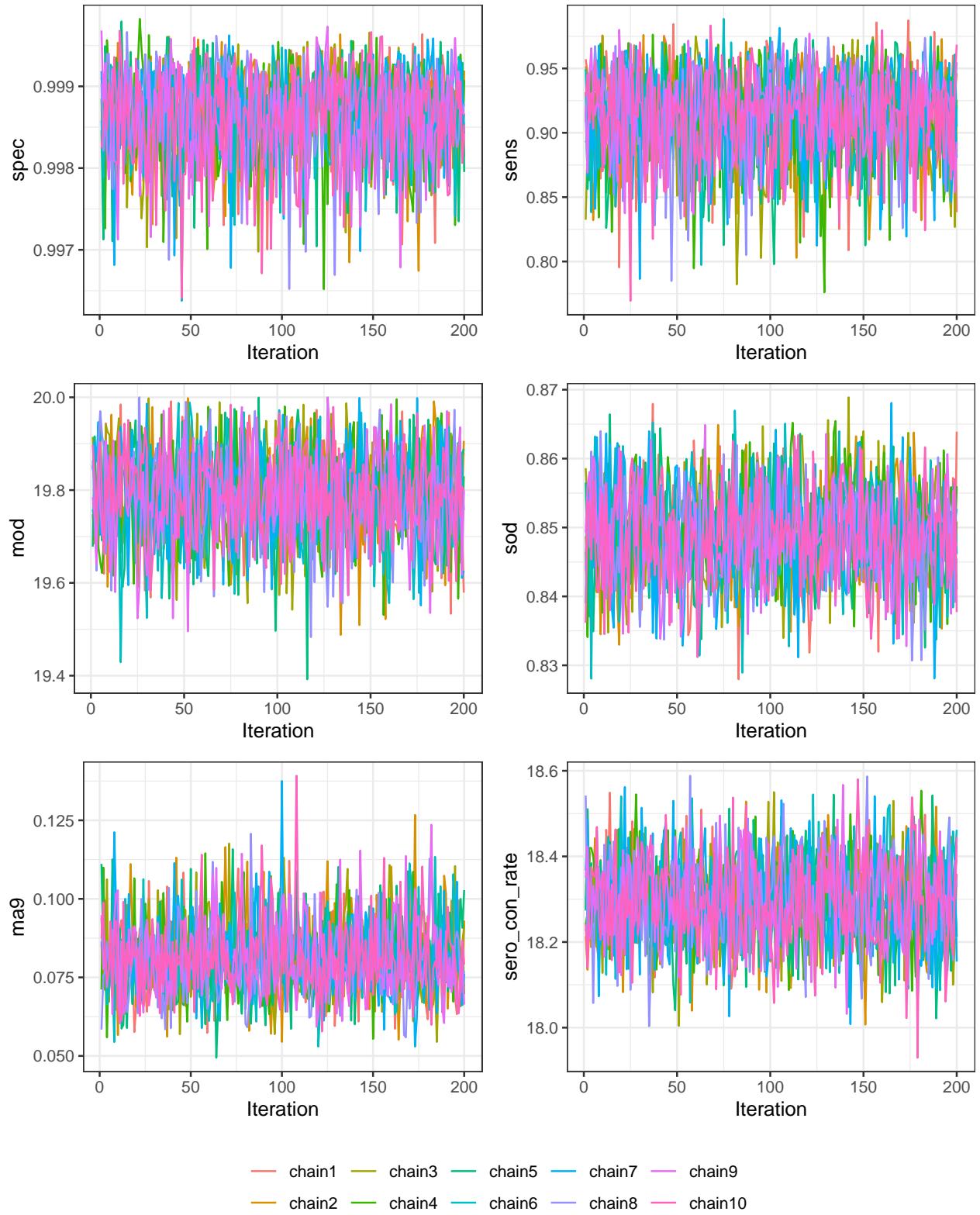
Log Likelihood & Prior Plot



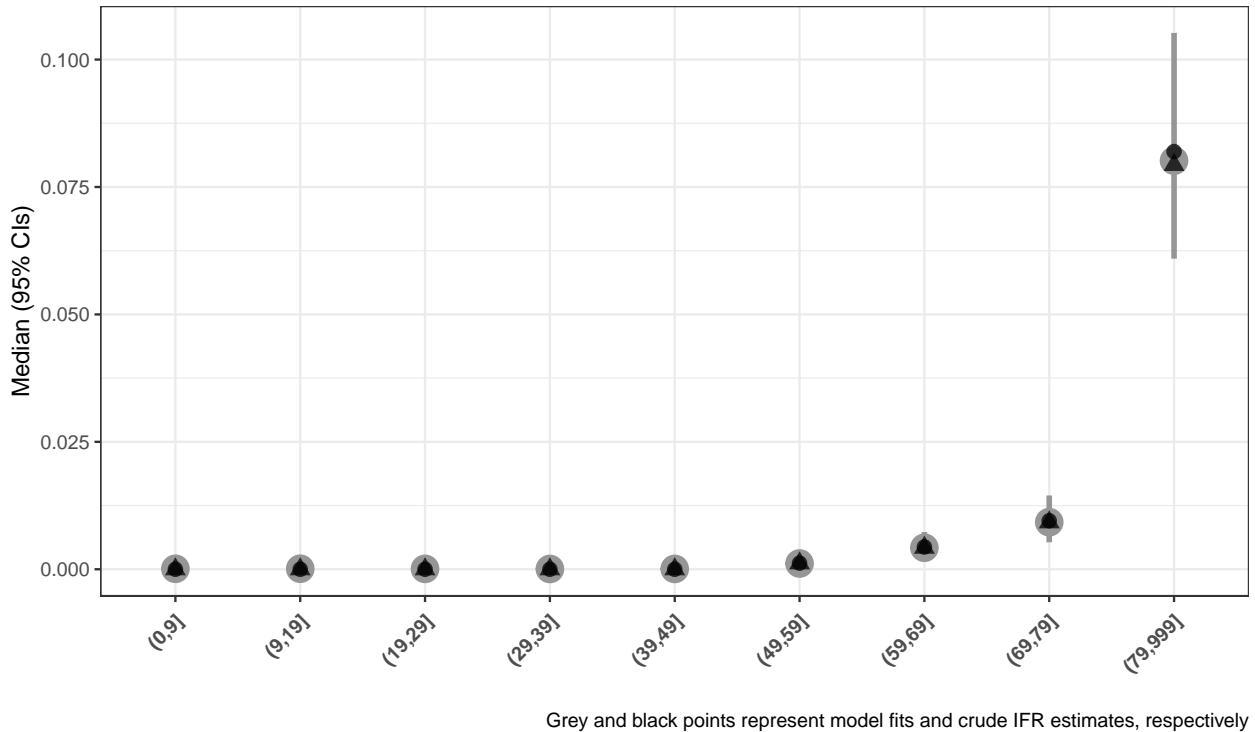
Metropolis Coupling Acceptance Plot



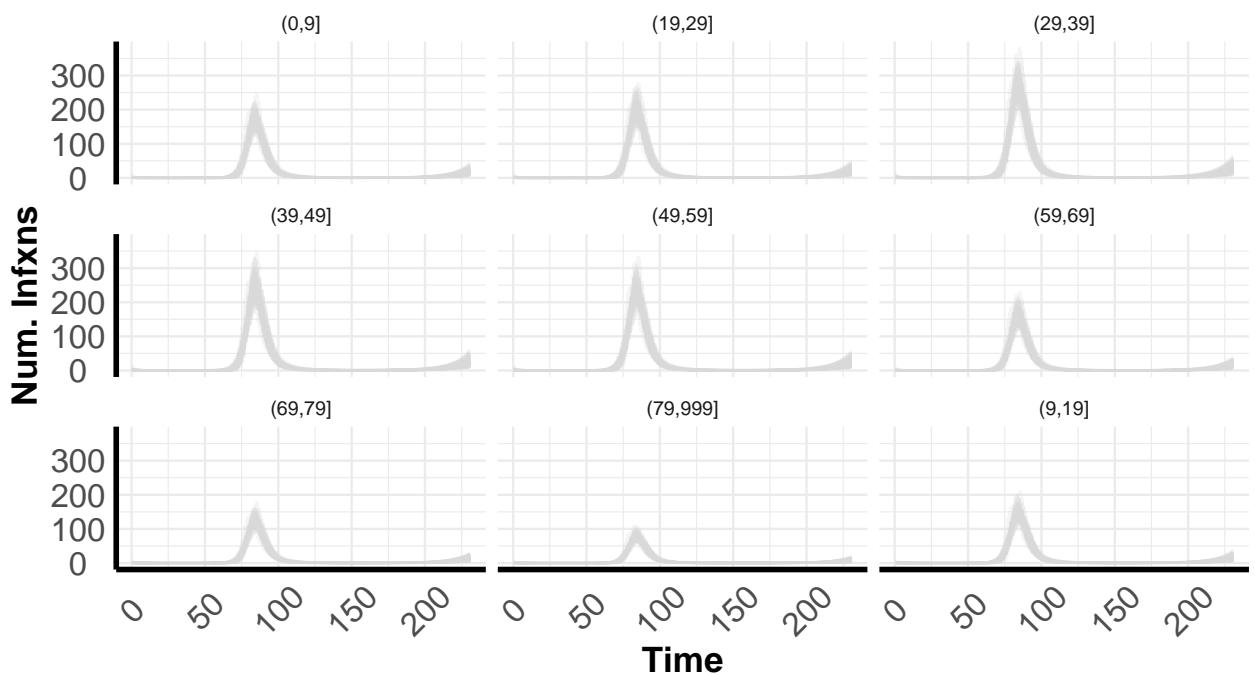
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



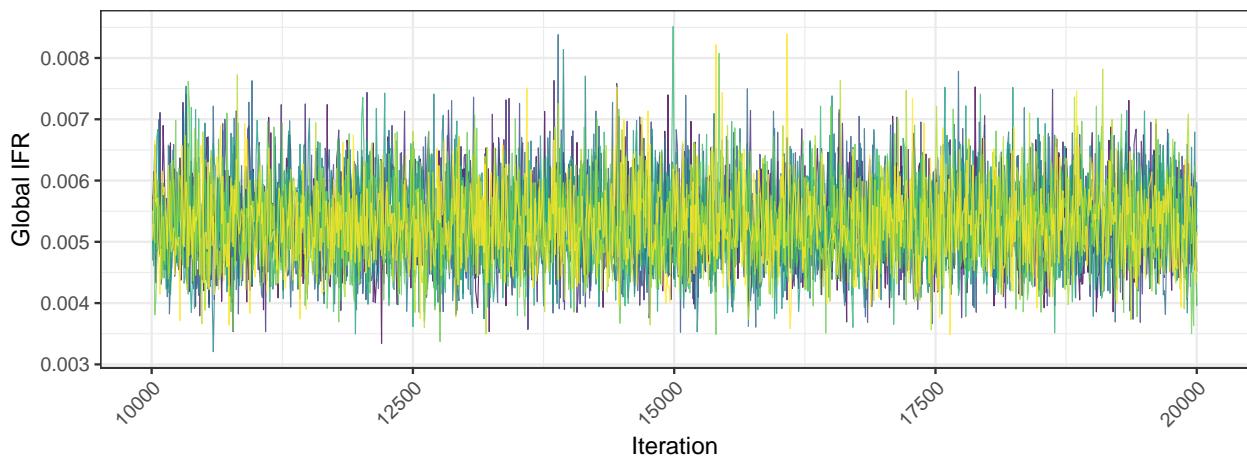
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0000	0.0000	0.0001	0.0001	0.0002	0.0002	9401.161	0.1207	0.3960
(9,19]	ma2	0.0000	0.0000	0.0001	0.0001	0.0002	0.0003	8973.227	0.1894	0.3918
(19,29]	ma3	0.0000	0.0000	0.0001	0.0001	0.0002	0.0002	9169.643	0.3484	0.3754
(29,39]	ma4	0.0000	0.0000	0.0001	0.0001	0.0001	0.0002	8806.255	1.4761	0.1342
(39,49]	ma5	0.0000	0.0000	0.0001	0.0001	0.0001	0.0002	9435.980	0.6055	0.3321
(49,59]	ma6	0.0000	0.0002	0.0011	0.0012	0.0025	0.0043	10000.000	-1.9148	0.0638
(59,69]	ma7	0.0001	0.0019	0.0042	0.0043	0.0073	0.0107	10000.000	1.1526	0.2053
(69,79]	ma8	0.0018	0.0053	0.0092	0.0094	0.0145	0.0212	10270.070	0.6935	0.3137
(79,999]	ma9	0.0452	0.0609	0.0802	0.0809	0.1052	0.1392	8148.987	0.6643	0.3199

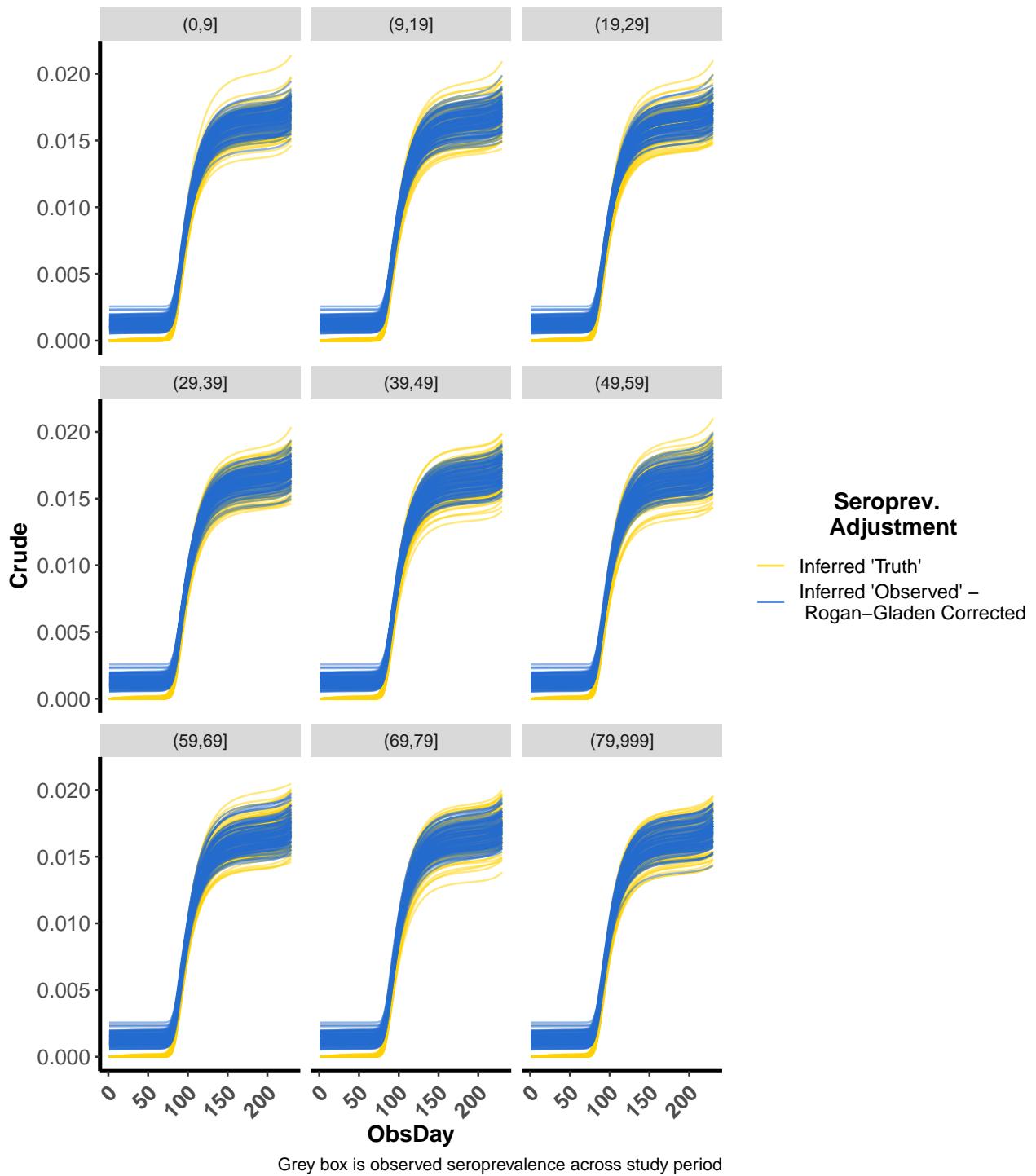
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0034	0.0041	0.0052	0.0053	0.0066	0.0085	8270.1	0.1915	0.3917

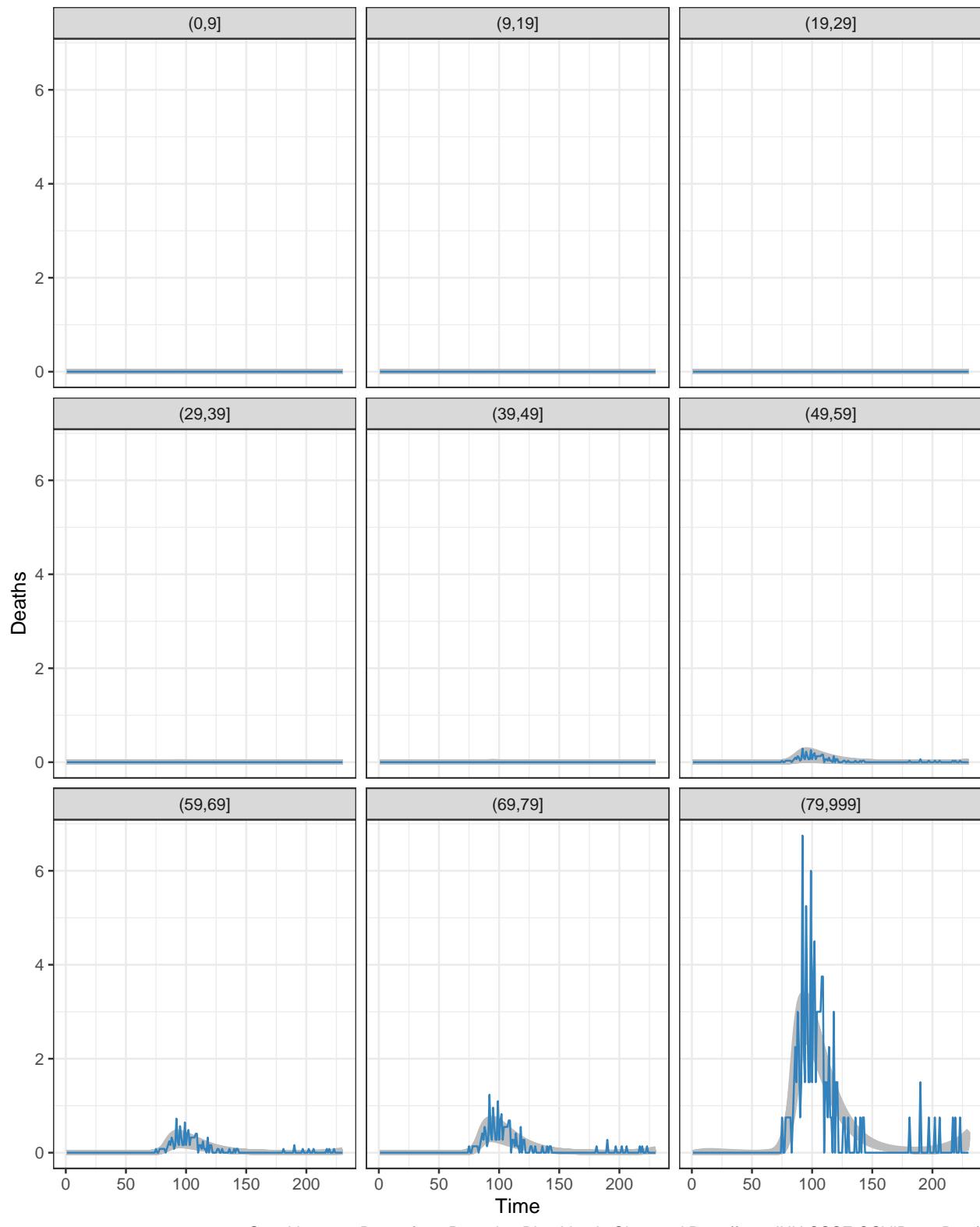
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0035	0.0041	0.0053	0.0053	0.0066	0.0077	736.6045	-0.9108	0.2635
chain2	0.0037	0.0042	0.0053	0.0053	0.0067	0.0078	1000.0000	-0.0646	0.3981
chain3	0.0037	0.0041	0.0052	0.0053	0.0066	0.0075	770.3333	0.0084	0.3989
chain4	0.0036	0.0042	0.0052	0.0053	0.0067	0.0080	1000.0000	1.6596	0.1006
chain5	0.0034	0.0041	0.0052	0.0053	0.0066	0.0085	887.9613	-1.1182	0.2135
chain6	0.0035	0.0041	0.0052	0.0053	0.0067	0.0076	1000.0000	-1.0782	0.2231
chain7	0.0035	0.0041	0.0053	0.0053	0.0065	0.0080	1000.0000	1.8629	0.0704
chain8	0.0036	0.0041	0.0052	0.0053	0.0066	0.0080	1000.0000	0.7985	0.2900
chain9	0.0036	0.0041	0.0052	0.0053	0.0067	0.0073	912.9212	-0.1255	0.3958
chain10	0.0034	0.0042	0.0053	0.0053	0.0066	0.0083	1248.3364	0.6312	0.3269



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

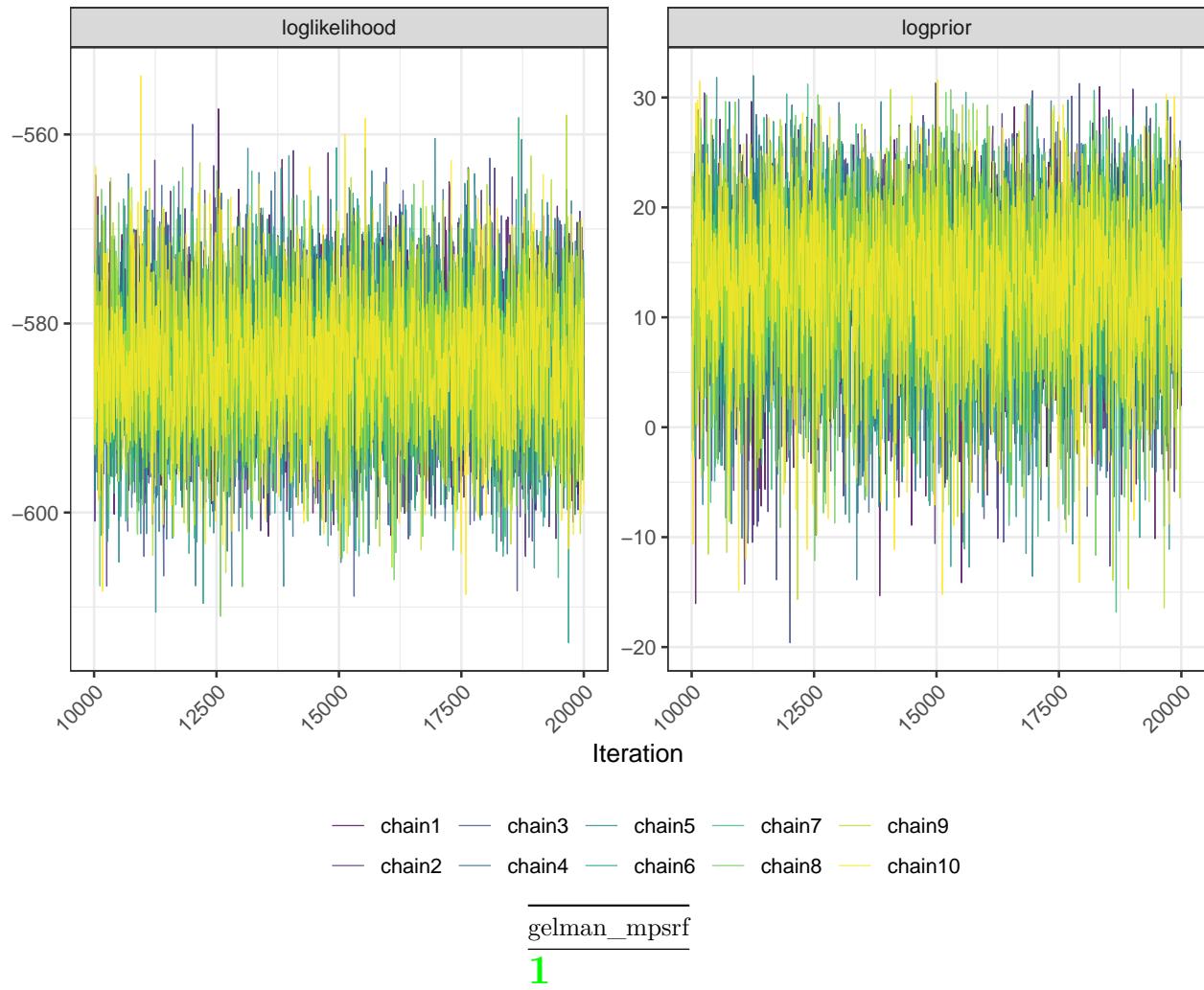
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.1577	2.2191	63.0937	58.2274	74.0361	82.3703	1600.044	0.3308	0.3777
x2	64.1058	71.8956	80.6944	80.8824	90.8654	99.4153	3473.238	-0.2016	0.3909
x3	80.4409	87.6790	98.1037	98.7897	113.8807	131.3666	4171.017	0.5783	0.3375
x4	214.0001	214.3147	221.0087	221.3075	229.5030	229.9978	6006.850	-0.3933	0.3692
y1	0.0004	0.0758	1.7628	1.9220	4.7637	6.3180	7794.417	-0.6531	0.3223
y2	0.0001	0.0725	1.7061	1.9827	5.2507	7.3680	5456.509	0.2761	0.3840
y3	3.4467	5.3332	7.0735	6.8890	7.6170	8.0486	2191.778	-0.0037	0.3989
y4	0.0464	2.6612	5.5451	5.3715	6.9984	7.7049	3984.337	-0.6762	0.3174
y5	0.4976	3.0111	4.4496	4.4520	5.8766	7.1578	7428.582	-1.4064	0.1484
Ne1	0.8041	0.9040	1.0007	1.0004	1.0947	1.2088	9700.920	-1.2915	0.1733
Ne2	0.8234	0.9050	1.0000	1.0000	1.0947	1.1979	10000.000	0.9197	0.2614
Ne3	0.8204	0.9082	1.0009	1.0011	1.0952	1.1684	10000.000	-0.1551	0.3942
Ne4	0.8088	0.9077	1.0005	1.0009	1.0962	1.1784	10000.000	-0.8024	0.2891
Ne5	0.8092	0.9049	1.0000	1.0000	1.0953	1.1861	10000.000	0.8284	0.2831
Ne6	0.8017	0.9066	1.0006	1.0004	1.0936	1.1784	10000.000	-0.4841	0.3548
Ne7	0.7925	0.9068	1.0014	1.0011	1.0957	1.2197	10000.000	-0.8136	0.2865
Ne8	0.8210	0.9043	0.9995	0.9997	1.0935	1.1936	9719.267	-1.4404	0.1414
Ne9	0.8254	0.9038	0.9993	1.0000	1.0970	1.1772	9596.864	-1.5004	0.1294

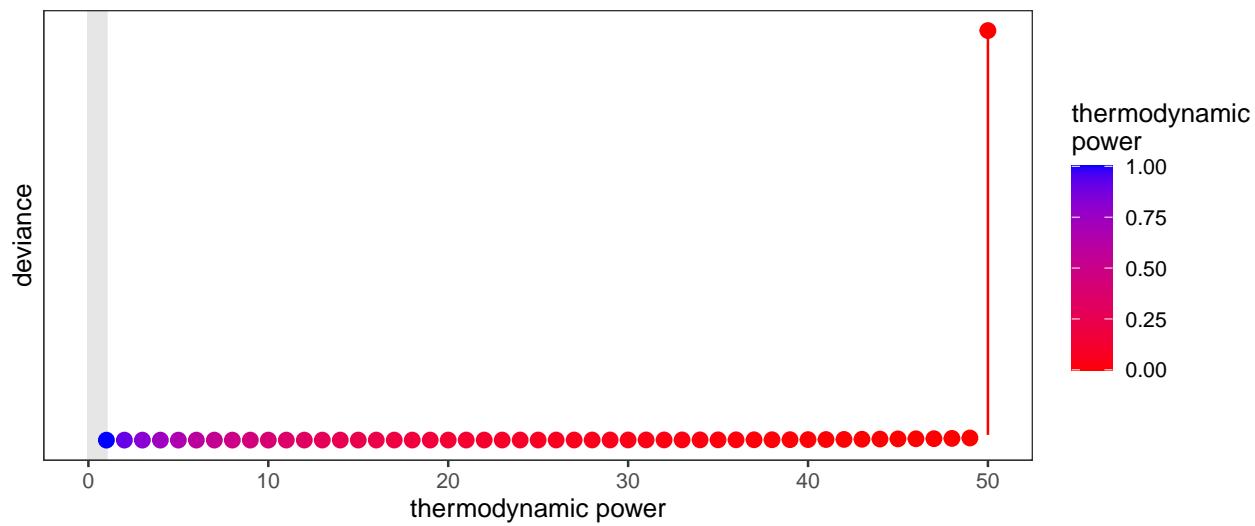
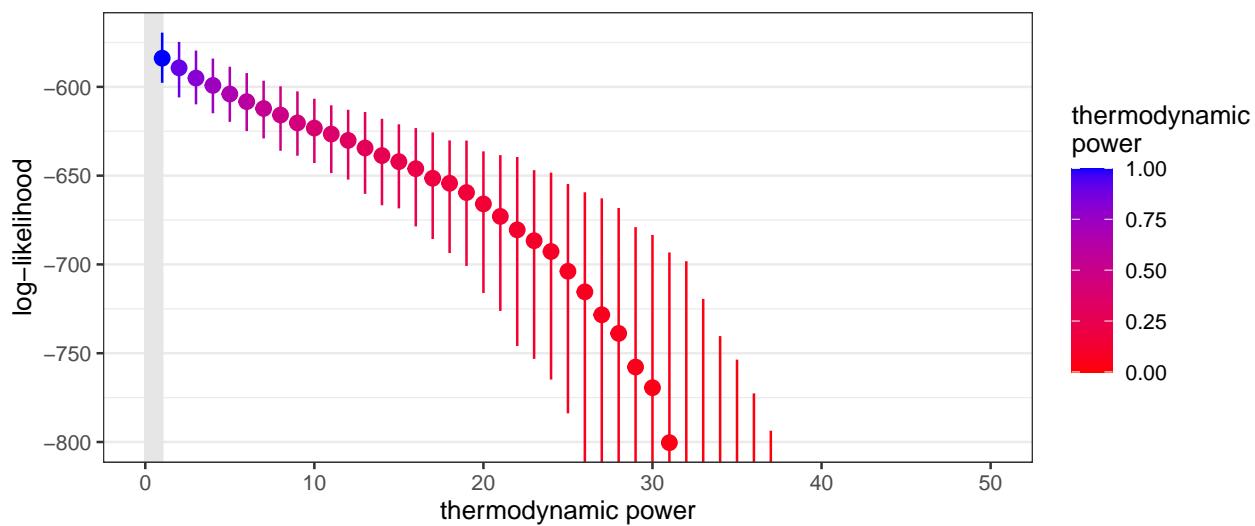
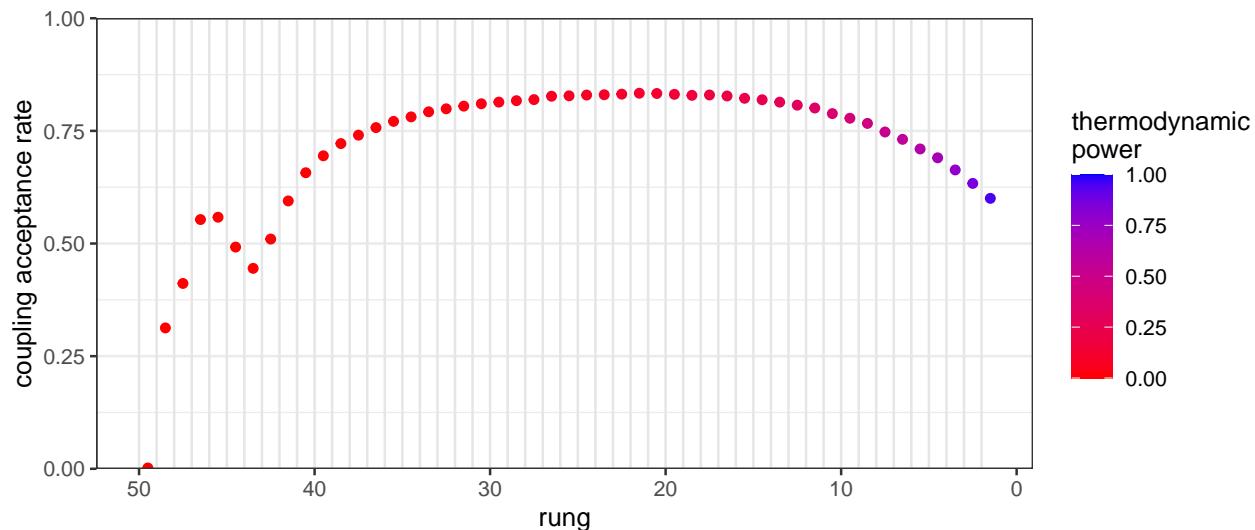
CHN1 with Standard Input

Fit Diagnostics

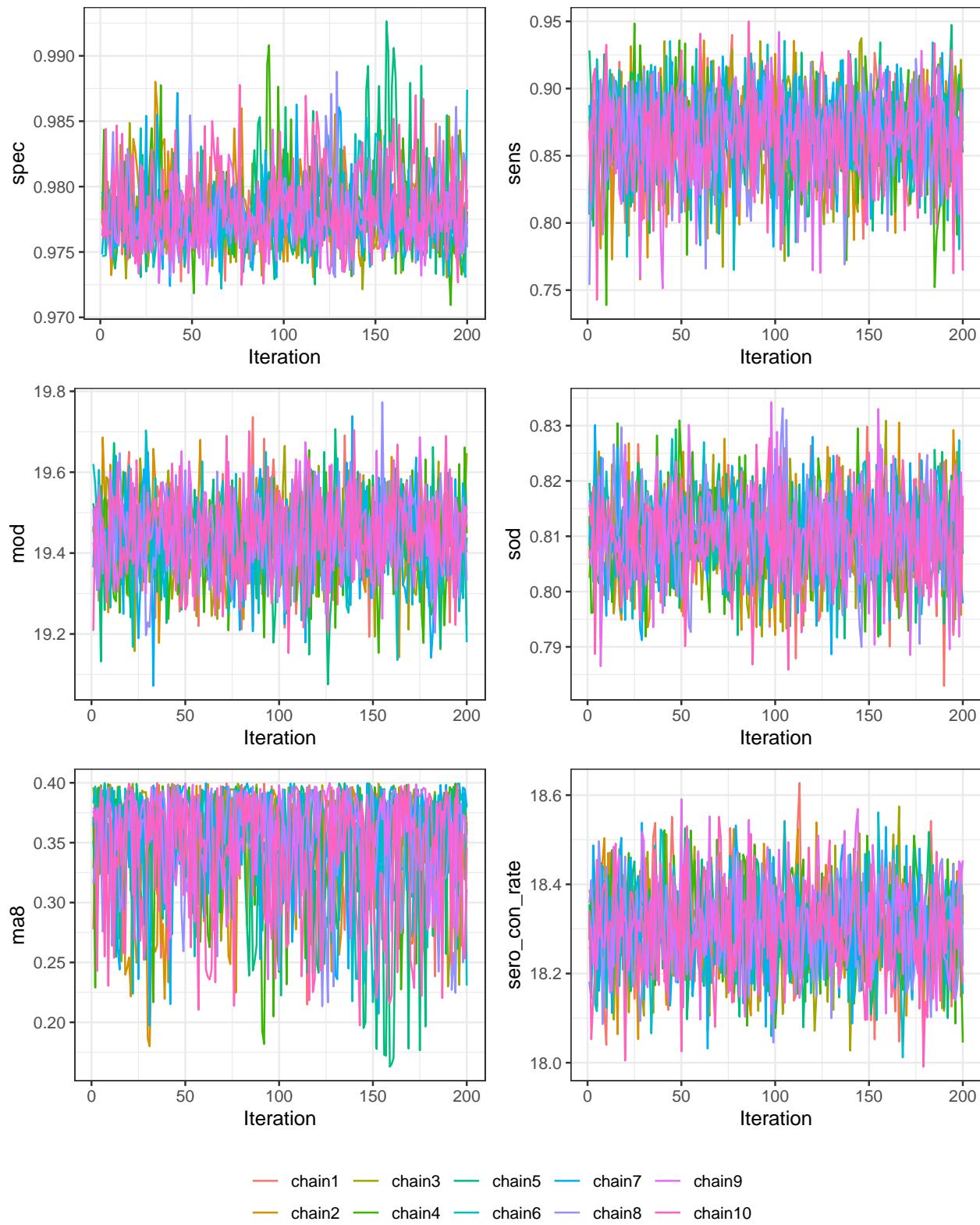
Log Likelihood & Prior Plot



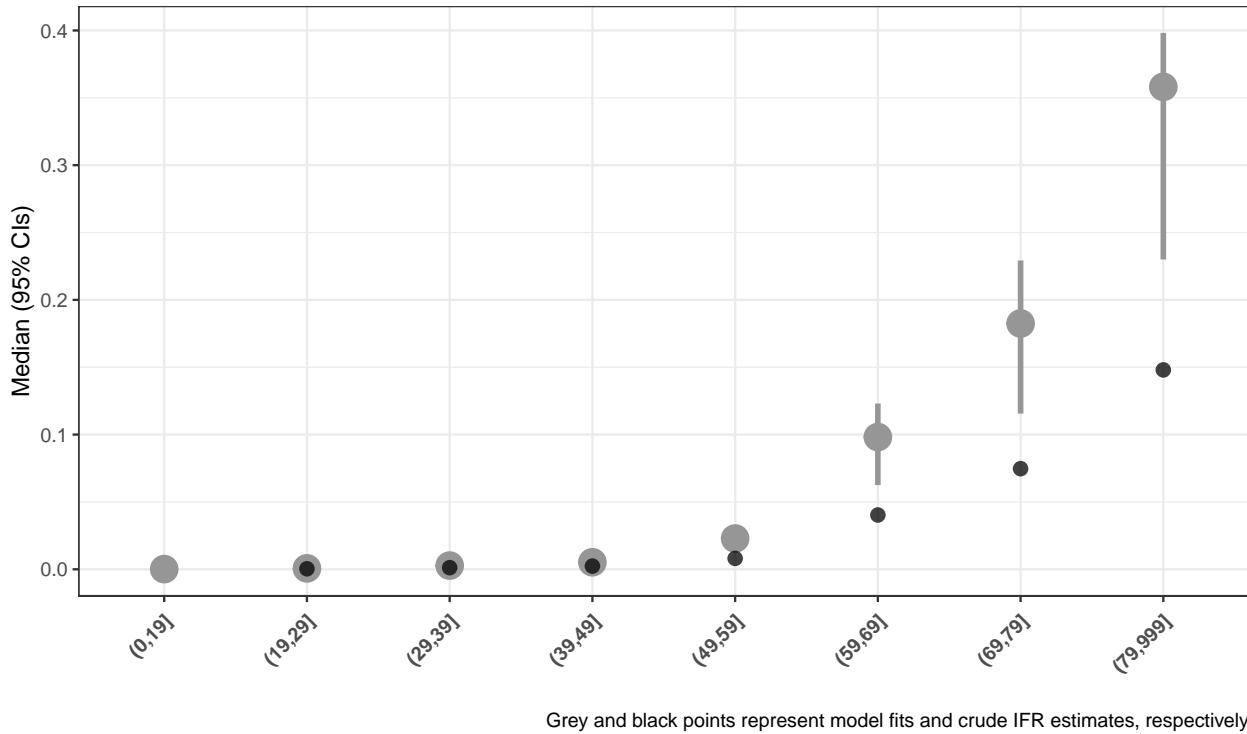
Metropolis Coupling Acceptance Plot



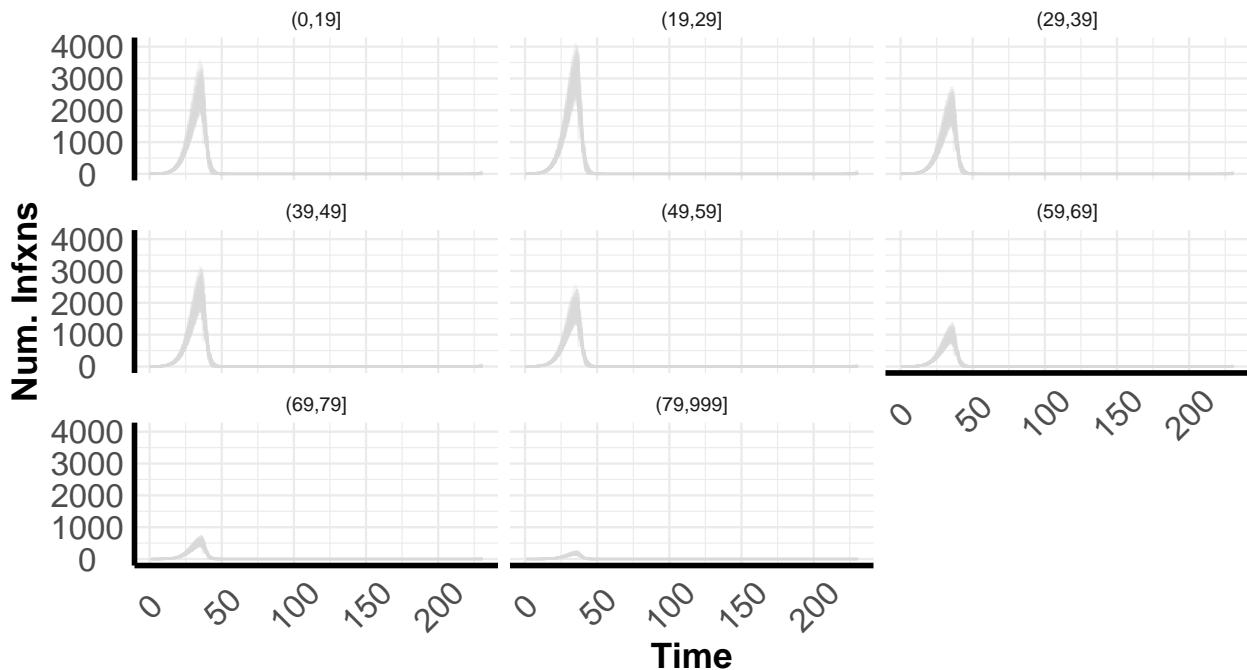
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



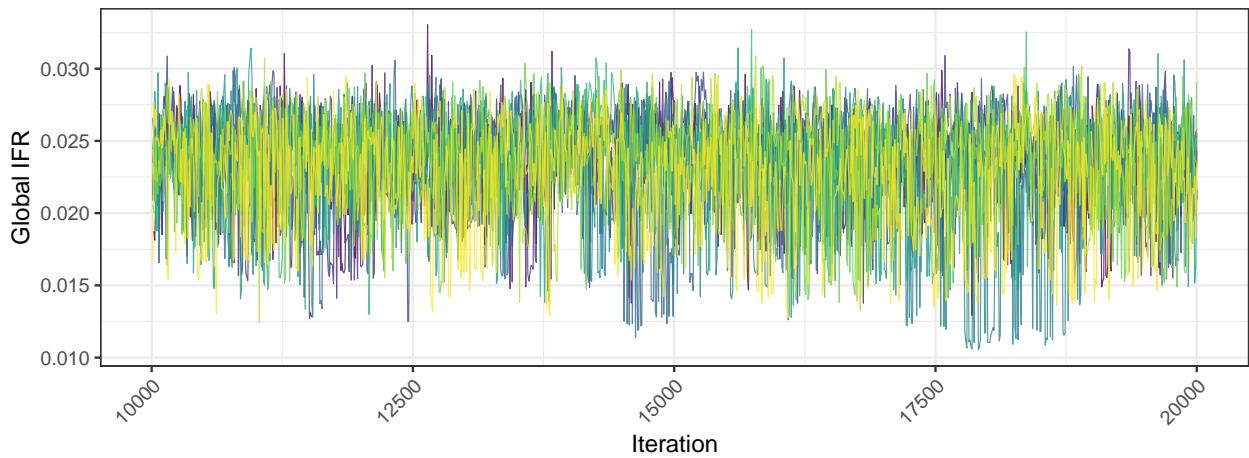
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,19]	ma1	0.0000	0.0000	0.0001	0.0001	0.0003	0.0005	7606.1411	0.2332	0.3882
(19,29]	ma2	0.0002	0.0004	0.0007	0.0007	0.0011	0.0015	3138.1880	1.5717	0.1160
(29,39]	ma3	0.0011	0.0017	0.0027	0.0027	0.0038	0.0051	1585.0903	1.7537	0.0857
(39,49]	ma4	0.0019	0.0033	0.0052	0.0052	0.0069	0.0084	1477.5921	1.5779	0.1149
(49,59]	ma5	0.0093	0.0143	0.0229	0.0225	0.0291	0.0349	944.3023	1.8478	0.0724
(59,69]	ma6	0.0421	0.0625	0.0982	0.0968	0.1231	0.1489	883.7196	1.6144	0.1084
(69,79]	ma7	0.0749	0.1156	0.1825	0.1795	0.2292	0.2963	963.3281	1.3810	0.1537
(79,999]	ma8	0.1589	0.2300	0.3581	0.3459	0.3982	0.4000	792.6484	2.0977	0.0442

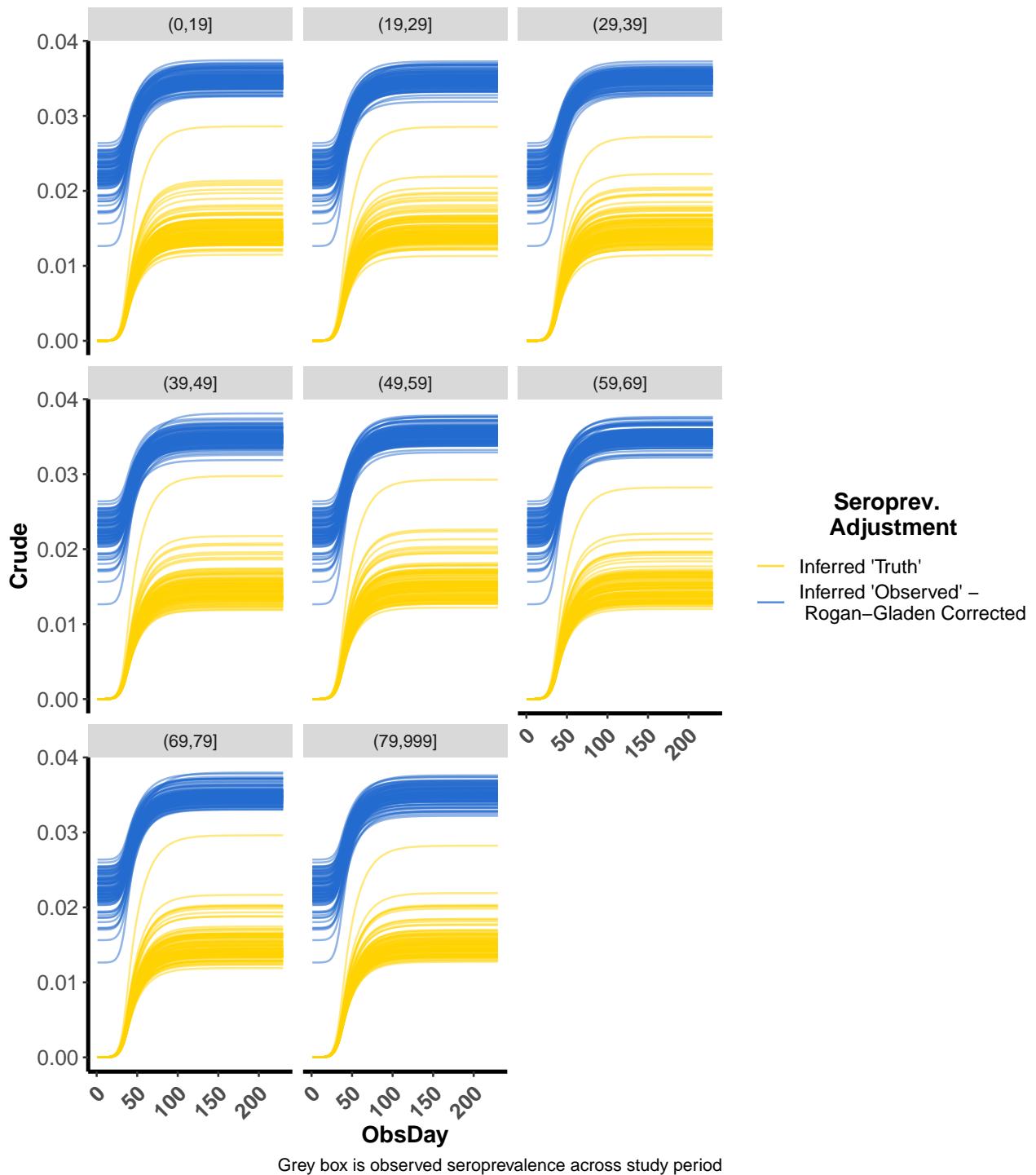
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0105	0.0154	0.0241	0.0235	0.029	0.0328	3094.096	5.2702	0

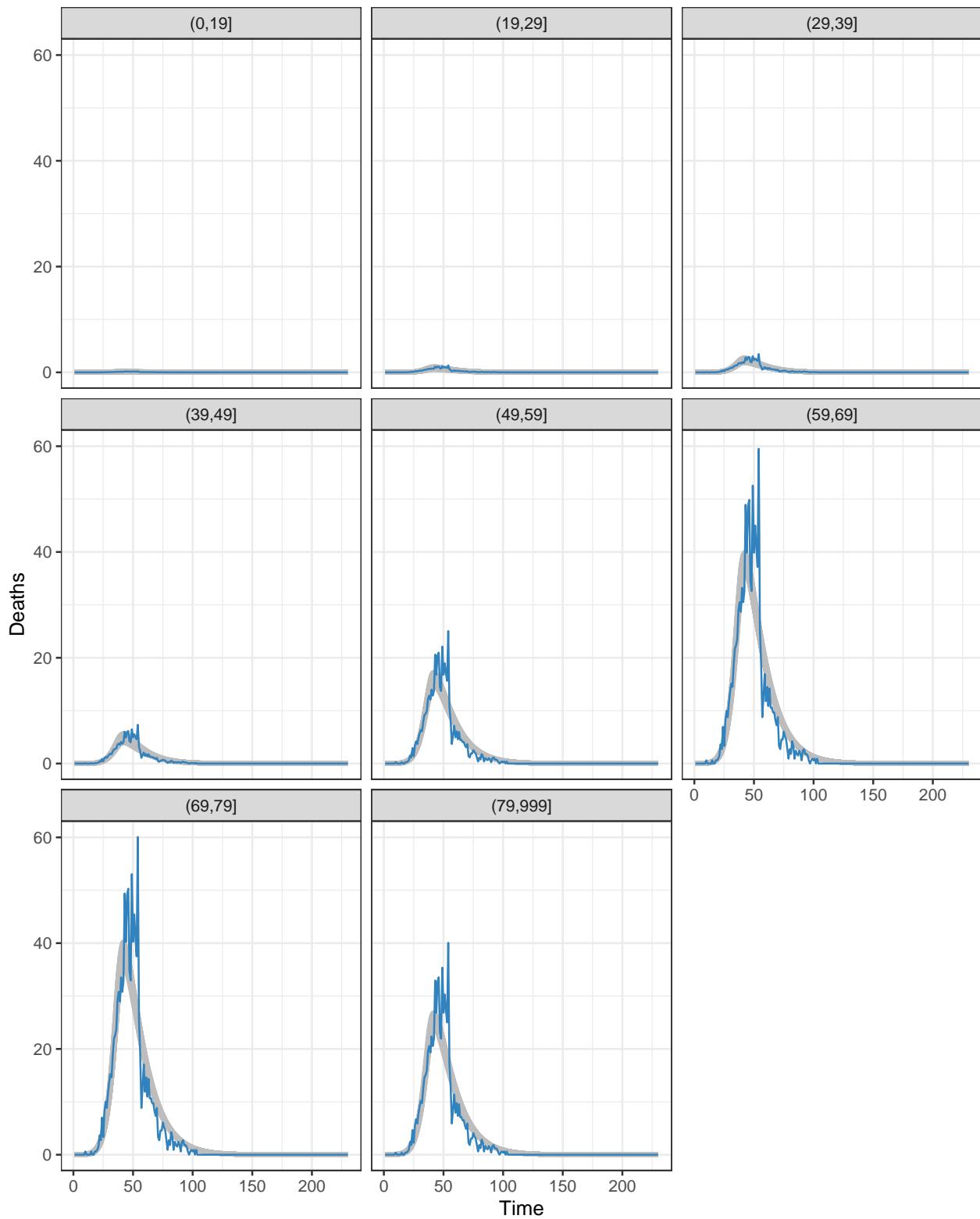
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0133	0.0169	0.0243	0.0239	0.0288	0.0326	313.8425	0.7217	0.3075
chain2	0.0128	0.0156	0.0237	0.0232	0.0285	0.0323	103.0849	0.1580	0.3940
chain3	0.0122	0.0177	0.0245	0.0242	0.0291	0.0319	358.8757	0.4317	0.3635
chain4	0.0116	0.0155	0.0237	0.0233	0.0287	0.0305	96.4470	1.5574	0.1186
chain5	0.0105	0.0118	0.0241	0.0230	0.0289	0.0311	204.1159	3.7652	0.0003
chain6	0.0130	0.0154	0.0241	0.0235	0.0290	0.0318	277.3642	2.9562	0.0050
chain7	0.0123	0.0165	0.0245	0.0239	0.0292	0.0328	112.5613	-1.7081	0.0928
chain8	0.0138	0.0155	0.0240	0.0235	0.0291	0.0319	219.6994	1.7743	0.0827
chain9	0.0126	0.0177	0.0244	0.0241	0.0291	0.0313	243.1928	0.2150	0.3898
chain10	0.0125	0.0143	0.0235	0.0226	0.0283	0.0304	292.2864	1.7070	0.0929



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

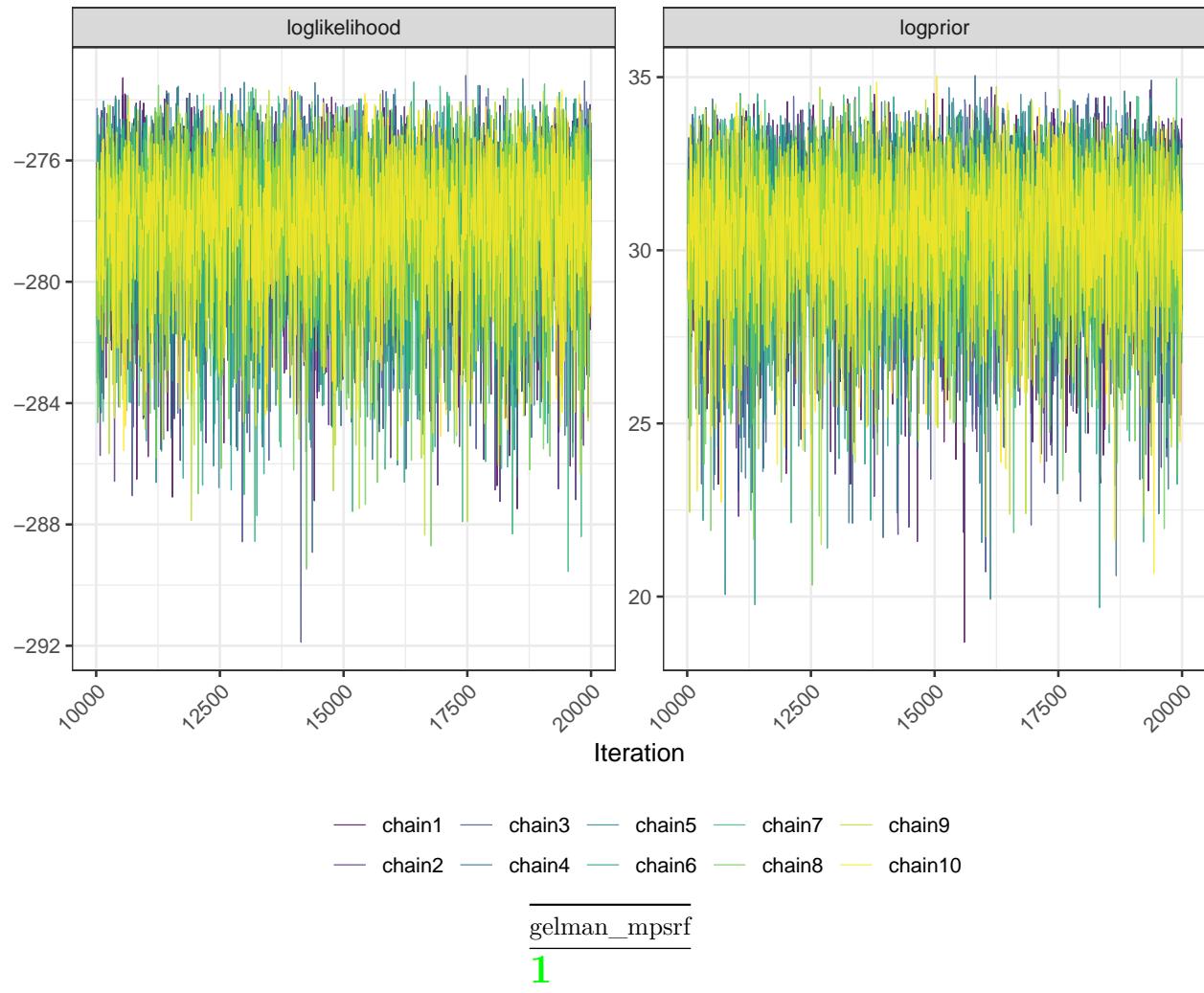
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.4502	3.7029	28.6604	24.5568	35.6125	37.6564	1528.2600	-1.5697	0.1164
x2	31.4988	34.2687	36.9460	38.6858	47.2513	49.9535	1592.5429	3.0128	0.0043
x3	39.8853	44.3389	51.3223	54.0387	57.6923	229.7385	476.3414	-1.2102	0.1918
x4	214.0517	216.1564	225.8484	225.0227	229.8617	229.9993	2944.5804	1.7239	0.0903
y1	0.0016	0.7177	2.1993	2.1771	3.4954	4.9204	3075.6574	2.0316	0.0507
y2	1.0788	2.9358	8.9936	7.7993	9.7444	10.2570	1469.3831	-2.7917	0.0081
y3	3.9462	5.1976	9.1772	8.5688	9.7960	10.2689	1246.8817	-4.1865	0.0001
y4	0.0002	0.0814	1.8838	2.1996	5.8523	8.0793	2826.7936	0.2650	0.3852
y5	0.0000	0.0556	1.3846	1.6636	4.7476	8.0048	7336.0937	-0.0822	0.3976
Ne1	0.8069	0.8971	0.9957	0.9954	1.0925	1.1992	9604.3080	-0.5882	0.3356
Ne2	0.7803	0.8775	0.9765	0.9759	1.0732	1.1528	8951.1489	-1.8146	0.0769
Ne3	0.8109	0.8979	0.9956	0.9949	1.0907	1.1896	8981.2141	1.2379	0.1854
Ne4	0.8162	0.8952	0.9906	0.9899	1.0872	1.1652	9169.9640	-0.7163	0.3087
Ne5	0.8318	0.9308	1.0291	1.0292	1.1258	1.2098	7774.6429	-0.3996	0.3683
Ne6	0.8180	0.8999	0.9984	0.9989	1.0967	1.1912	6624.1251	-1.0872	0.2209
Ne7	0.7804	0.8996	0.9994	0.9987	1.0942	1.1832	6538.5074	0.6889	0.3147
Ne8	0.8295	0.9178	1.0148	1.0142	1.1097	1.2076	4931.5676	-1.0626	0.2269

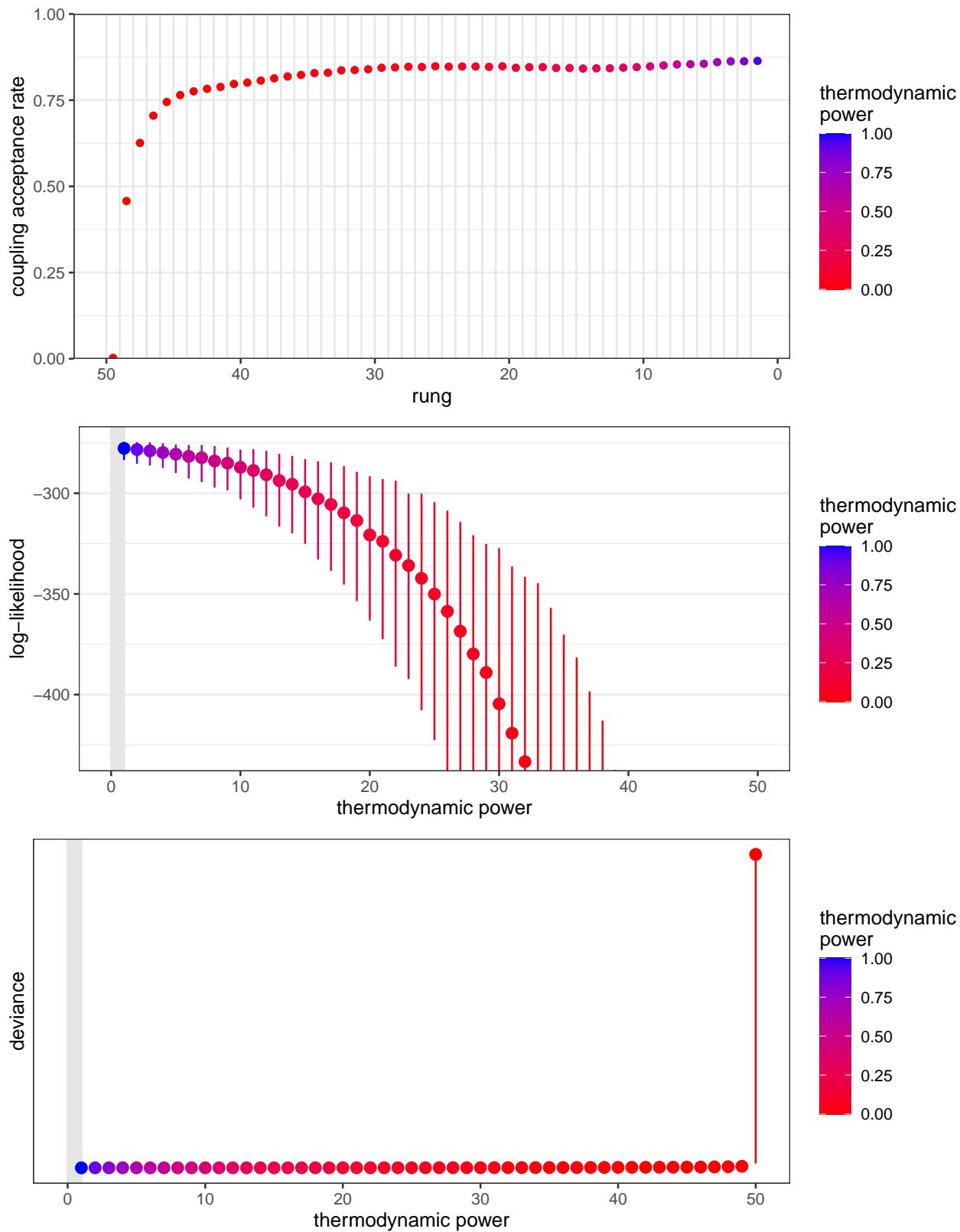
DNK1 with Standard Input

Fit Diagnostics

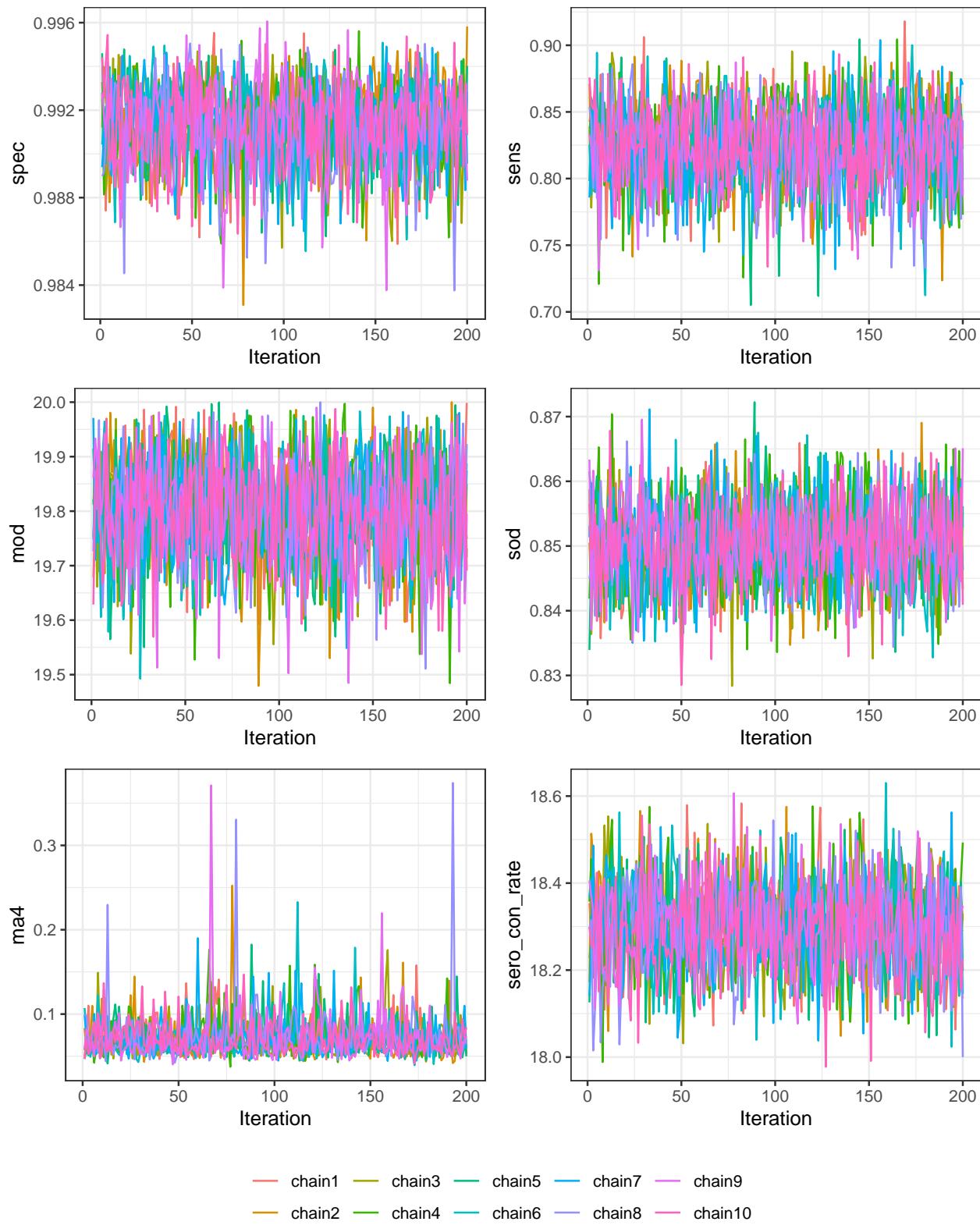
Log Likelihood & Prior Plot



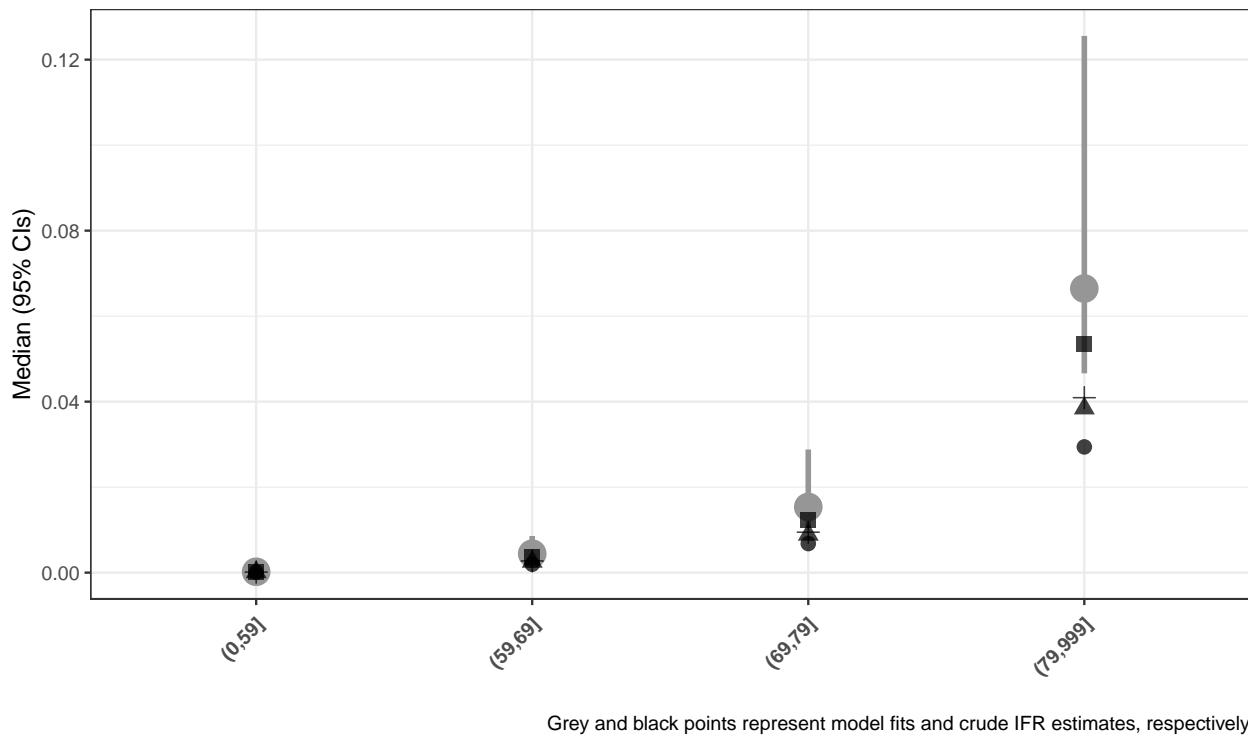
Metropolis Coupling Acceptance Plot



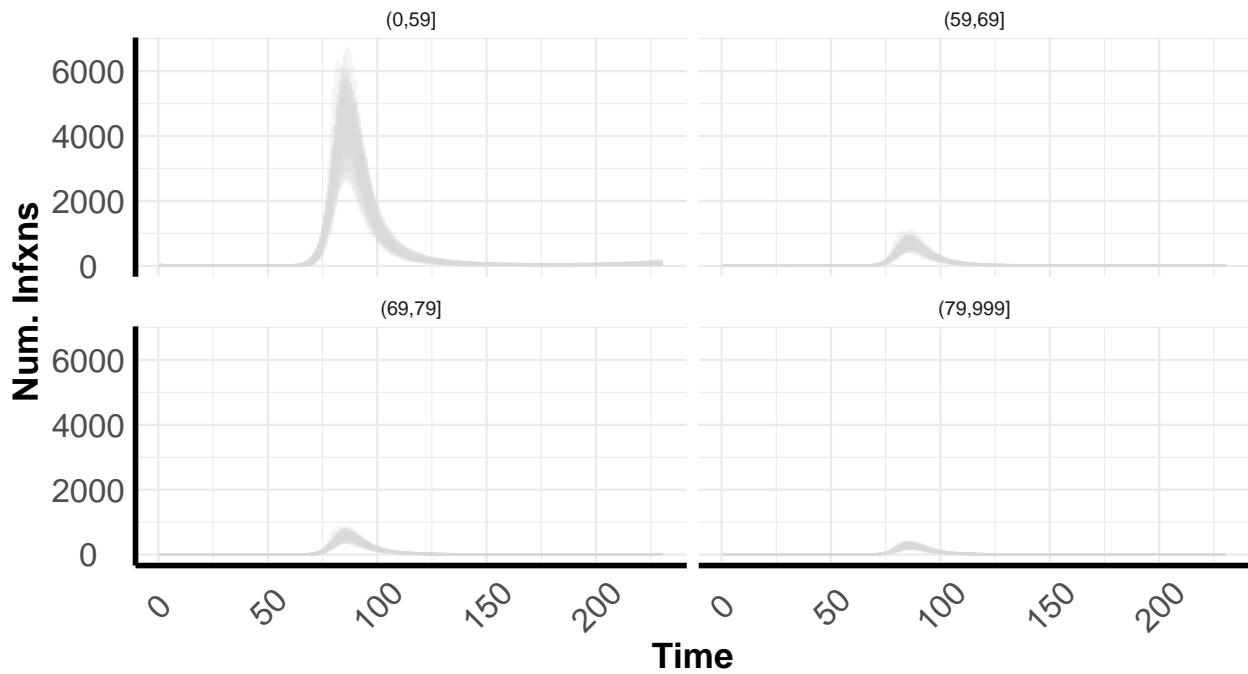
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



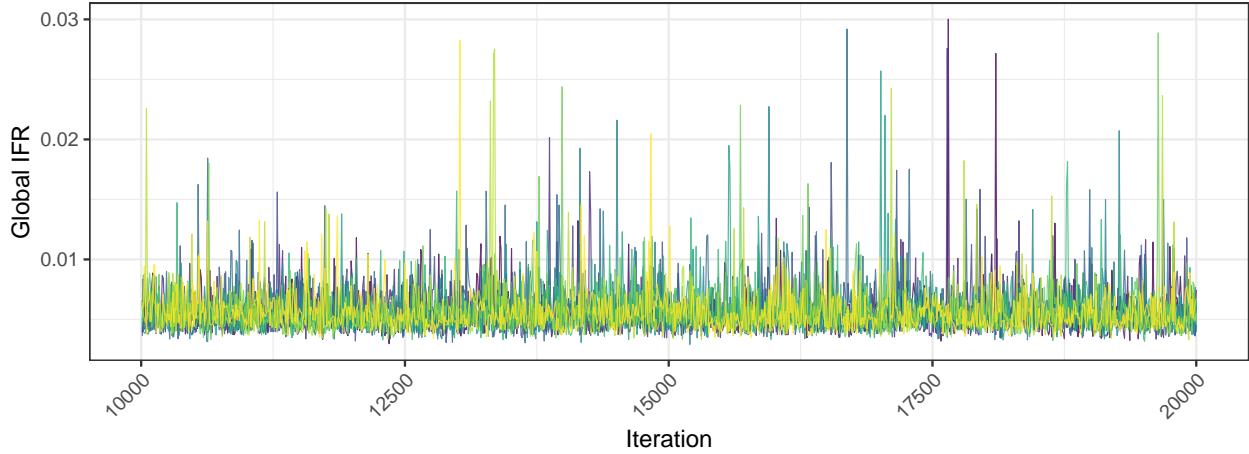
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,59]	ma1	0.0001	0.0001	0.0002	0.0002	0.0004	0.0013	7873.965	1.5835	0.1139
(59,69]	ma2	0.0016	0.0029	0.0044	0.0048	0.0086	0.0343	6268.938	0.0761	0.3978
(69,79]	ma3	0.0084	0.0105	0.0154	0.0165	0.0288	0.0903	6270.943	0.2173	0.3896
(79,999]	ma4	0.0358	0.0466	0.0665	0.0712	0.1256	0.3854	5472.563	-0.3544	0.3747

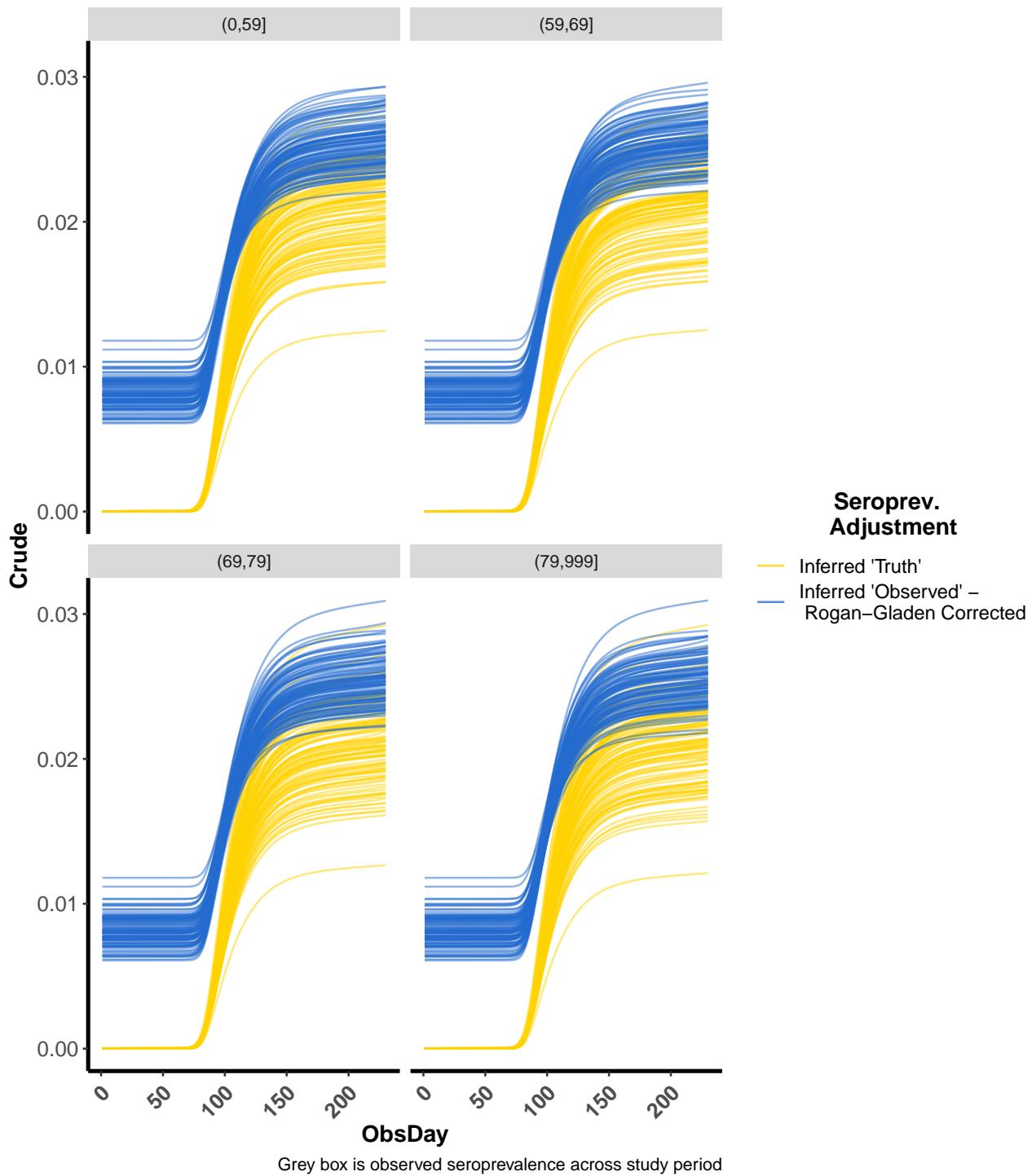
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0029	0.0037	0.0052	0.0056	0.0099	0.0309	7904.736	-0.7424	0.3028

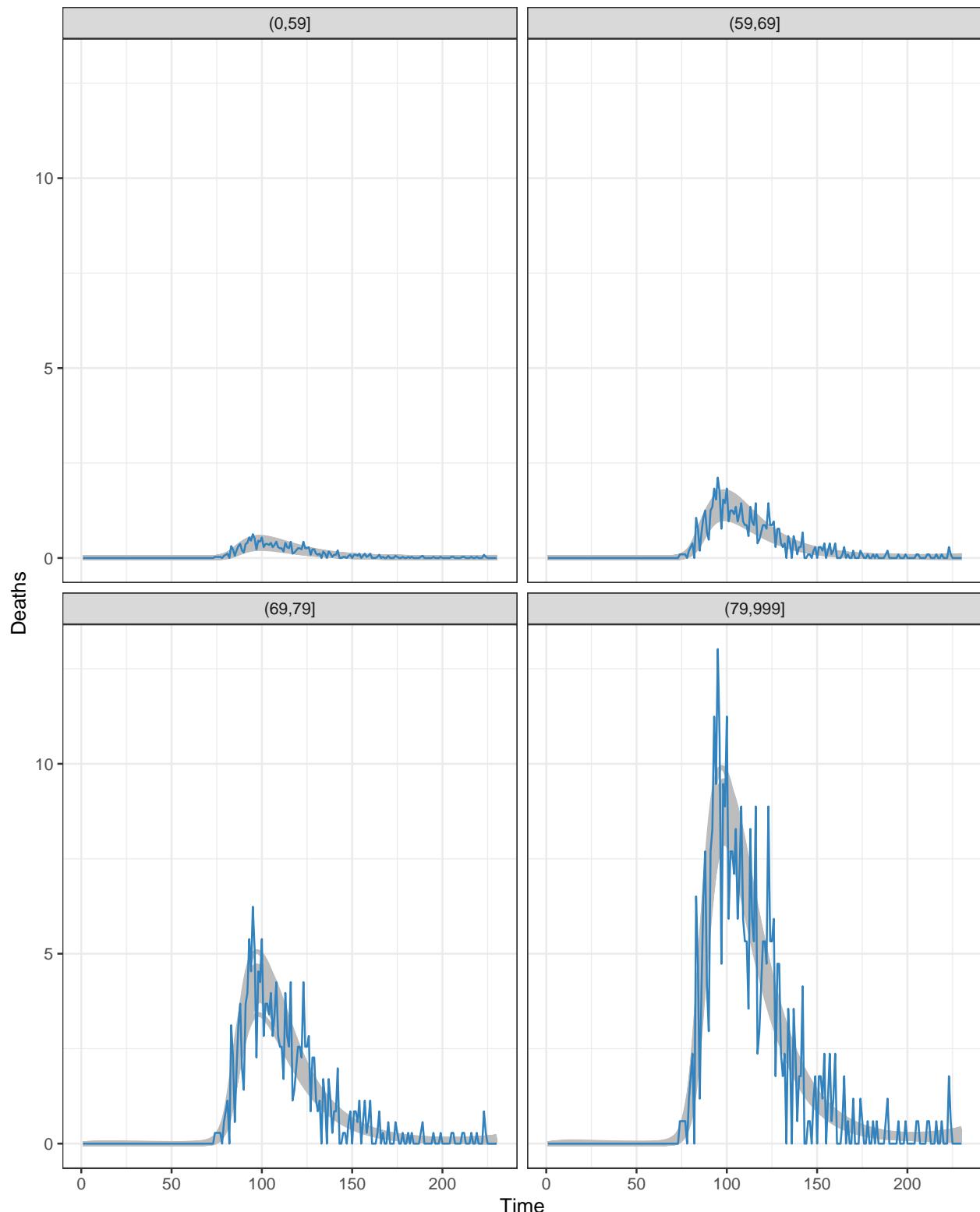
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0029	0.0037	0.0053	0.0056	0.0097	0.0309	1000.0000	-0.4928	0.3533
chain2	0.0033	0.0037	0.0052	0.0055	0.0091	0.0265	1000.0000	-0.6323	0.3267
chain3	0.0031	0.0037	0.0051	0.0056	0.0105	0.0182	908.1879	-3.0973	0.0033
chain4	0.0032	0.0037	0.0053	0.0057	0.0107	0.0284	1000.0000	0.1562	0.3941
chain5	0.0030	0.0038	0.0052	0.0055	0.0095	0.0221	393.0016	-1.3666	0.1568
chain6	0.0032	0.0037	0.0052	0.0056	0.0095	0.0275	548.7607	-0.9629	0.2509
chain7	0.0030	0.0038	0.0053	0.0057	0.0101	0.0180	606.2023	-0.4930	0.3533
chain8	0.0031	0.0038	0.0054	0.0057	0.0091	0.0256	842.6467	0.4034	0.3678
chain9	0.0032	0.0037	0.0051	0.0056	0.0097	0.0263	567.8080	2.0785	0.0460
chain10	0.0033	0.0039	0.0052	0.0057	0.0097	0.0262	512.1164	1.6986	0.0943



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

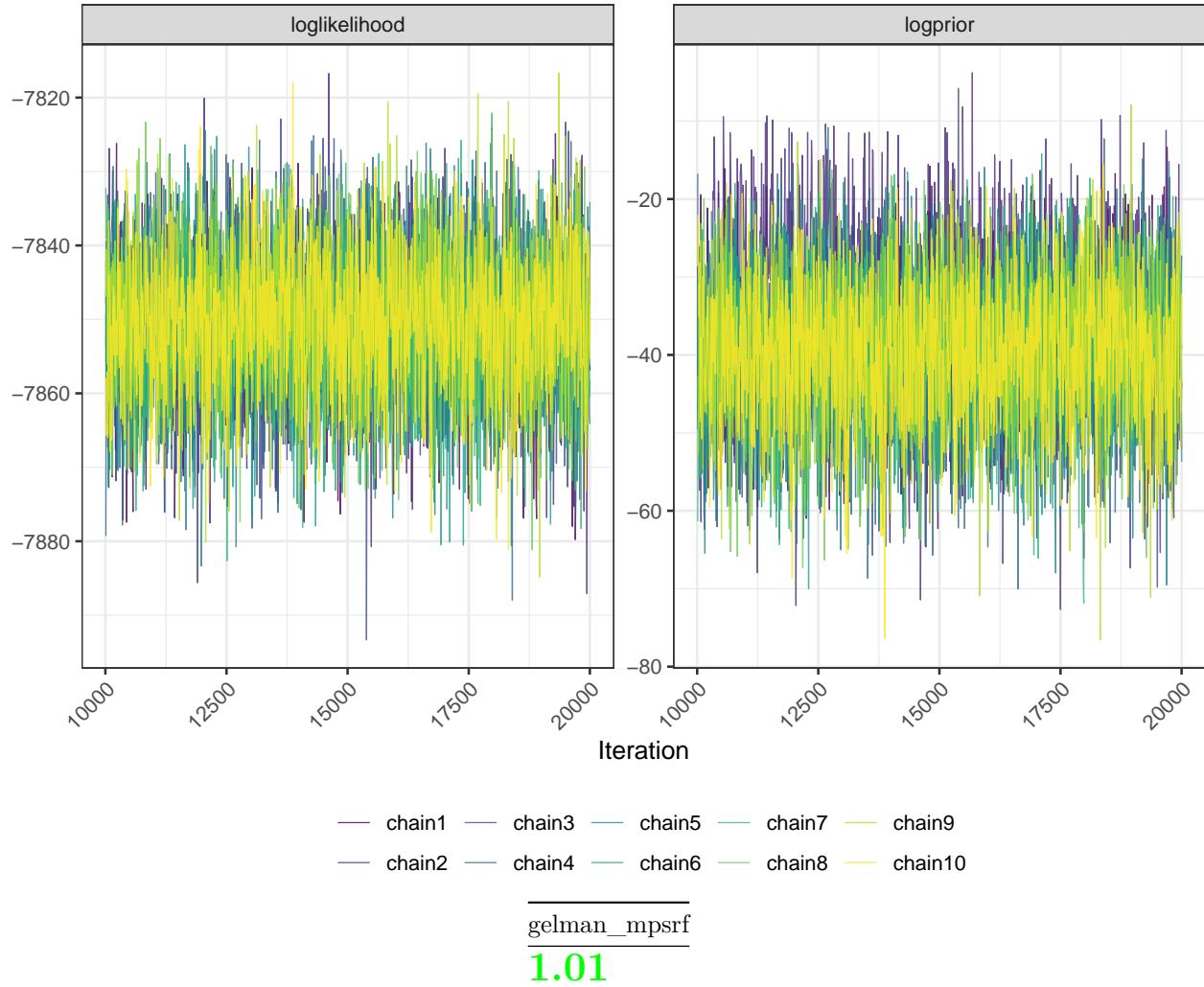
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.1850	2.2702	59.6386	54.1514	71.7332	78.7188	1173.490	0.6363	0.3258
x2	64.0521	74.2249	81.0715	81.3283	89.3189	95.8100	2835.786	1.2469	0.1834
x3	82.3743	89.2202	98.3580	99.0553	112.5760	140.5070	3273.668	-1.8278	0.0751
x4	214.0009	214.3908	222.2093	222.1278	229.6343	229.9978	4521.092	0.0379	0.3987
y1	0.0001	0.0820	1.7557	1.9340	4.8270	7.0544	3666.573	-1.9942	0.0546
y2	0.0008	0.0667	1.6847	2.0110	5.6447	7.6012	3538.237	0.7127	0.3095
y3	4.7757	6.8637	8.2807	8.1715	8.9536	9.2547	2372.704	1.5218	0.1253
y4	0.8374	6.0109	7.6207	7.5298	8.5280	9.0827	2727.058	1.6307	0.1055
y5	1.0128	2.9216	4.3198	4.2895	5.4862	6.3665	7360.154	-0.1080	0.3966
Ne1	0.8339	0.9052	0.9998	1.0002	1.0955	1.2211	9423.950	0.7421	0.3029
Ne2	0.8427	0.9030	0.9995	1.0000	1.0971	1.1846	10000.000	-1.2445	0.1839
Ne3	0.8148	0.9034	1.0000	0.9998	1.0930	1.1929	8621.491	-0.5612	0.3408
Ne4	0.8215	0.9044	0.9992	0.9999	1.0972	1.1875	8662.855	-0.3681	0.3728

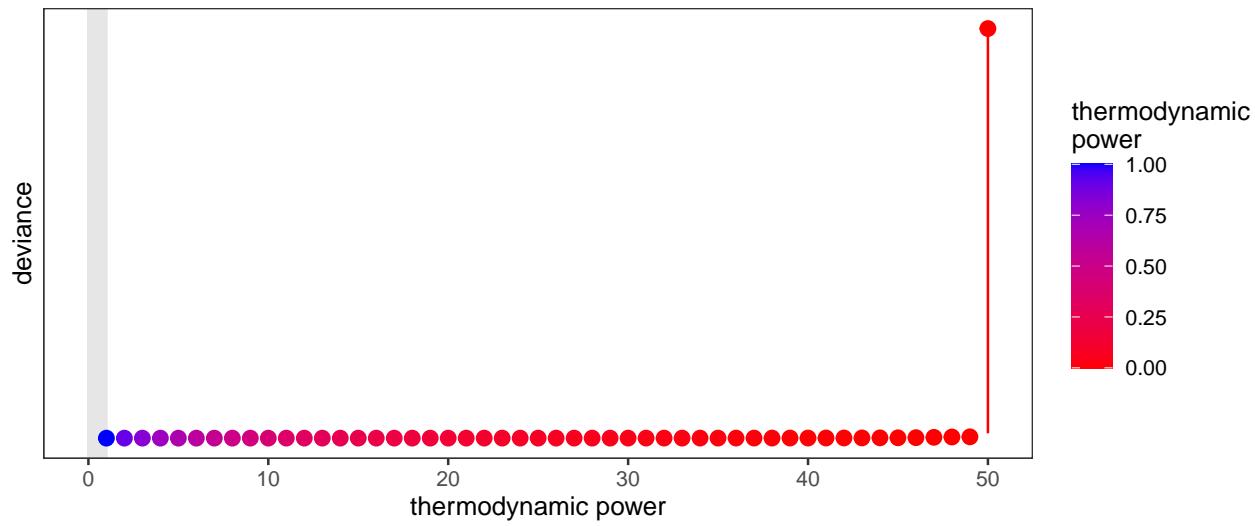
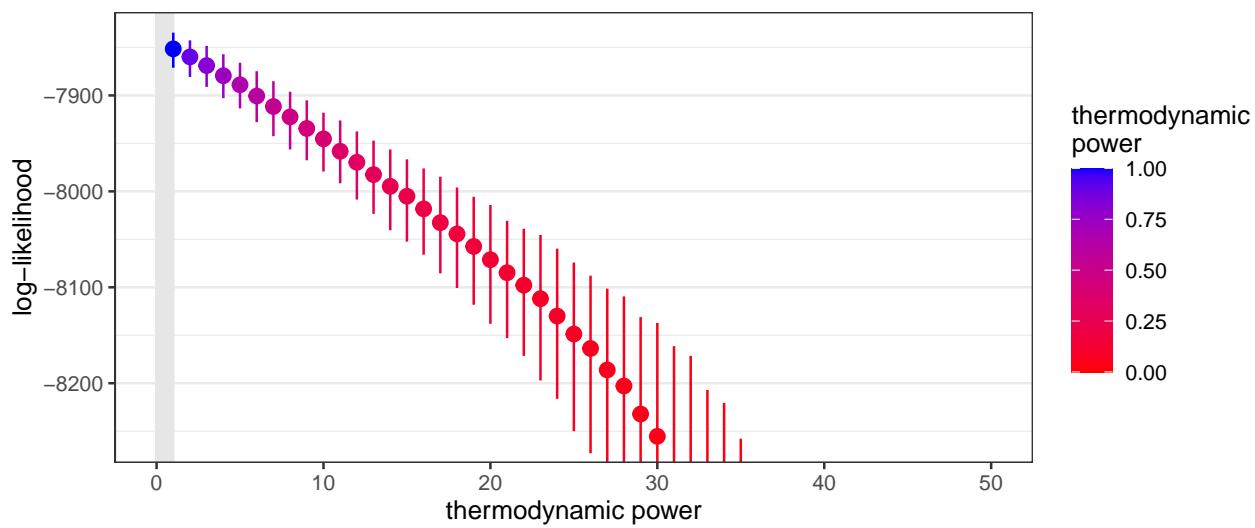
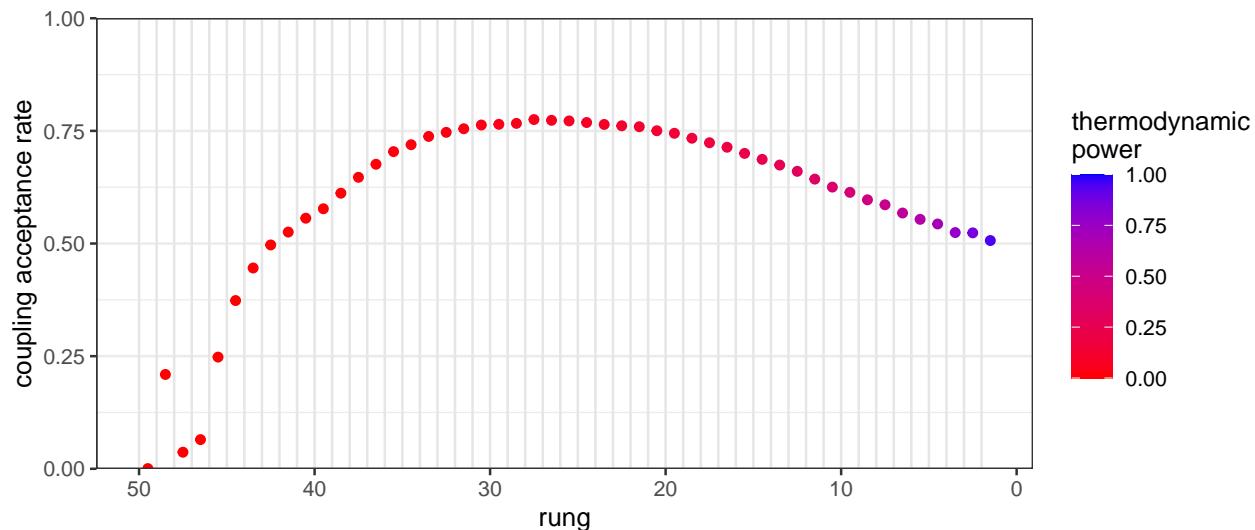
ESP1-2 with Standard Input

Fit Diagnostics

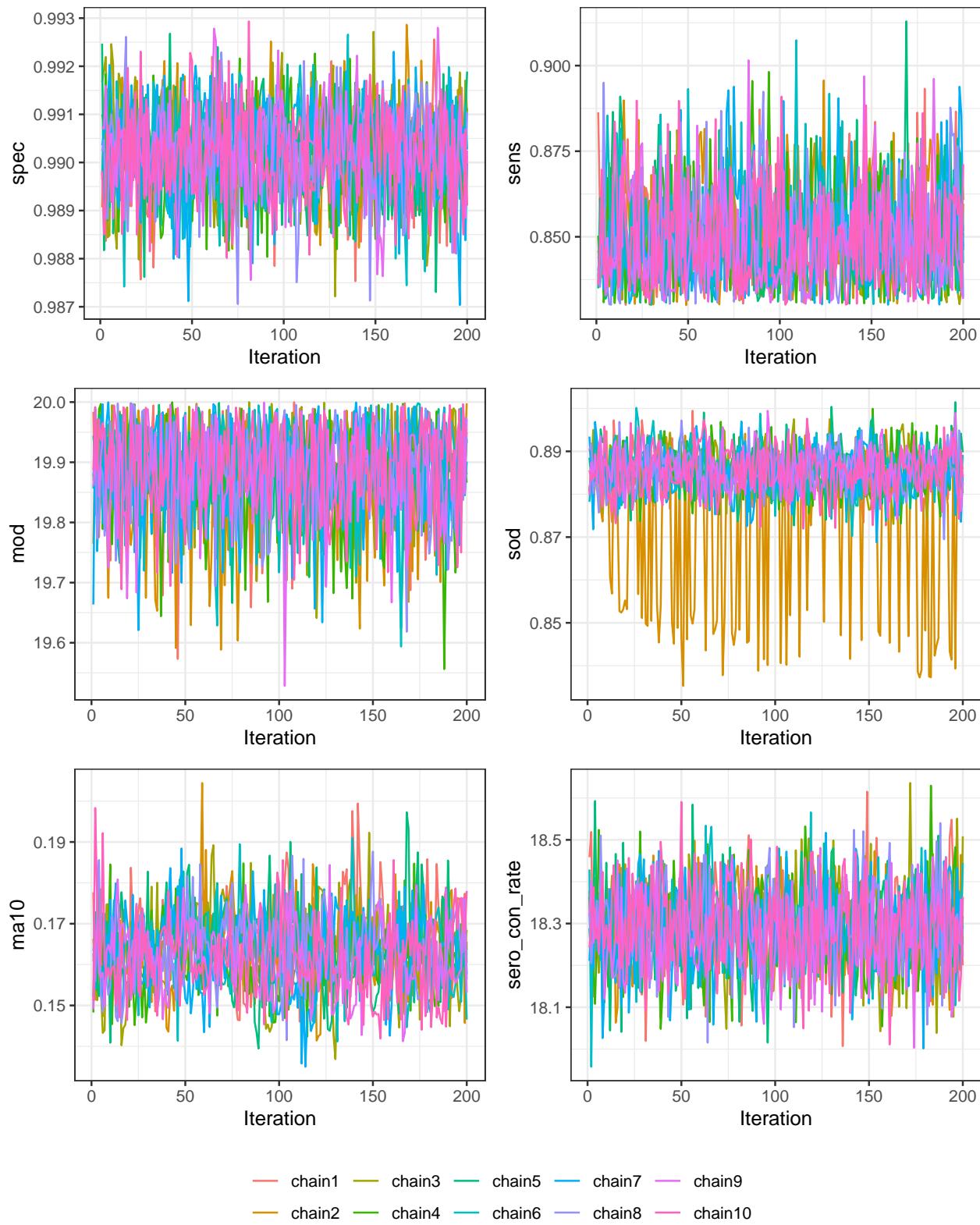
Log Likelihood & Prior Plot



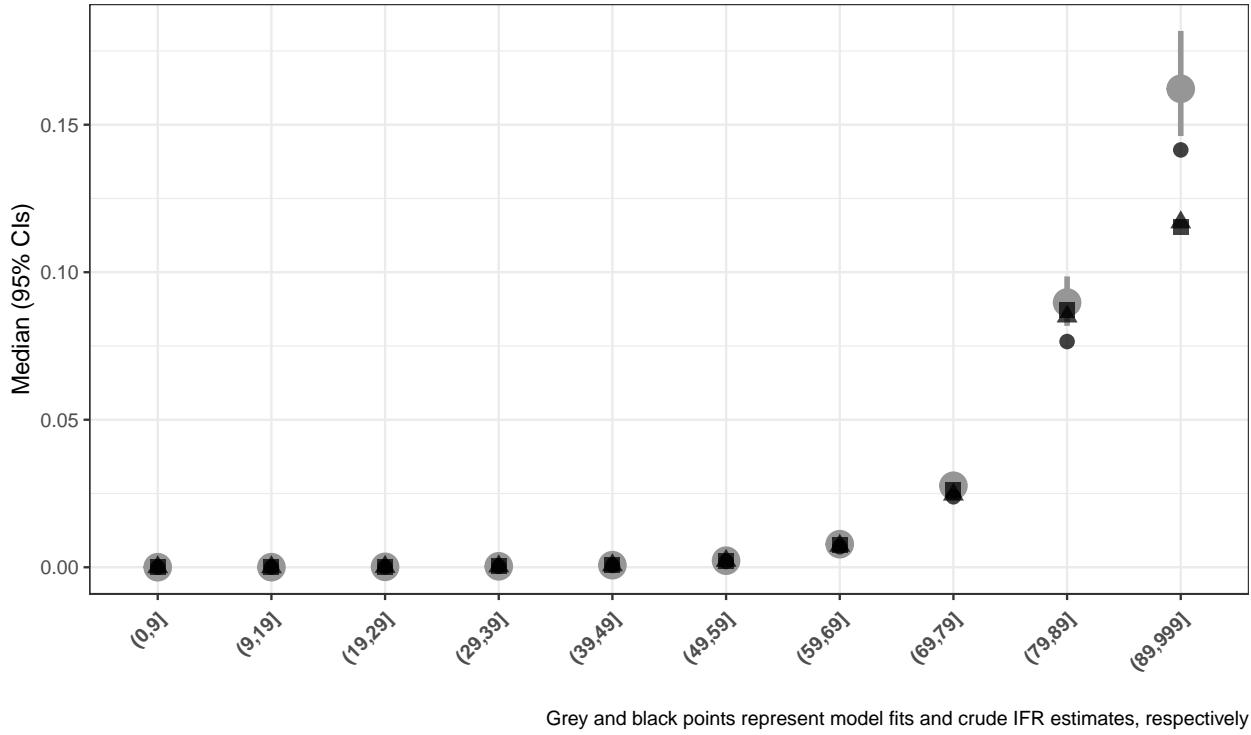
Metropolis Coupling Acceptance Plot



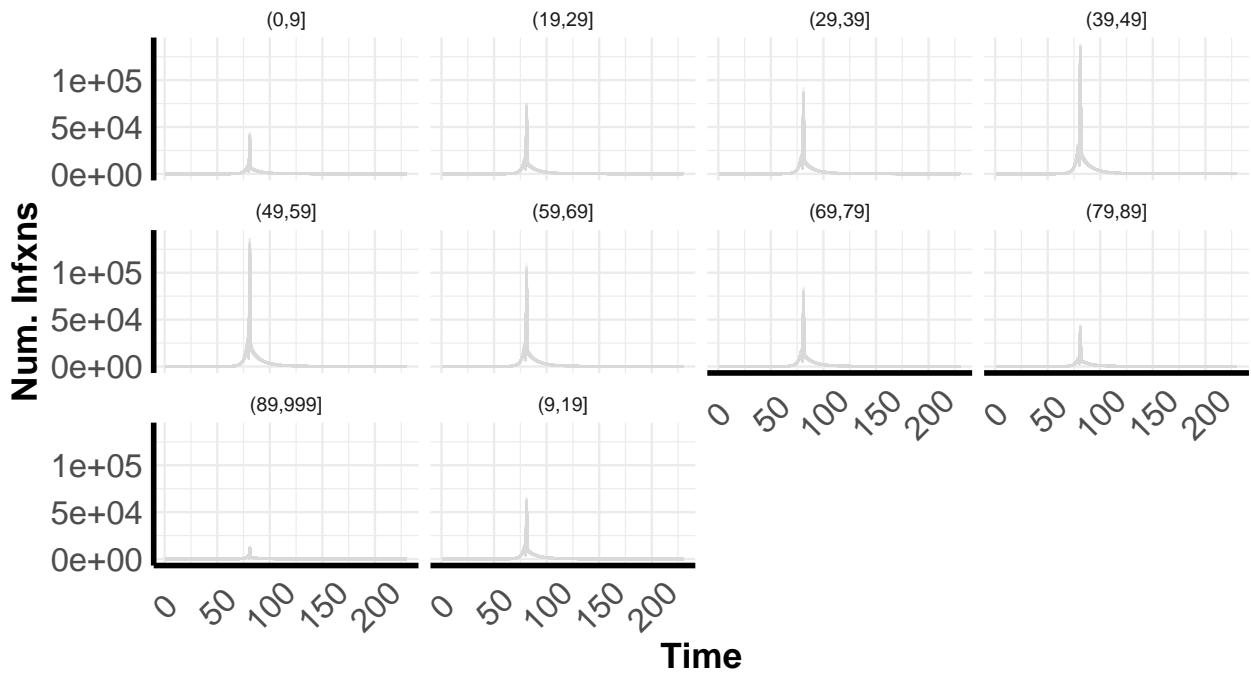
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



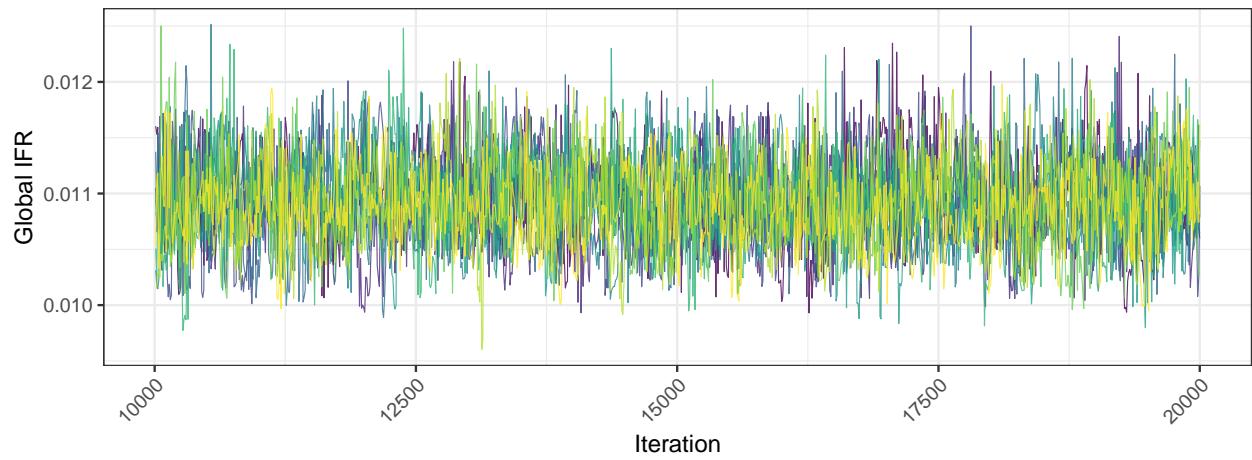
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	9237.6576	0.4493	0.3606
(9,19]	ma2	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	9544.6235	0.2328	0.3883
(19,29]	ma3	0.0001	0.0001	0.0001	0.0001	0.0002	0.0003	9128.9071	0.6545	0.3220
(29,39]	ma4	0.0002	0.0003	0.0003	0.0003	0.0004	0.0005	7996.3999	0.0523	0.3984
(39,49]	ma5	0.0006	0.0006	0.0007	0.0007	0.0008	0.0009	6671.6719	2.3770	0.0237
(49,59]	ma6	0.0018	0.0020	0.0022	0.0022	0.0025	0.0028	3549.8182	0.9953	0.2431
(59,69]	ma7	0.0067	0.0072	0.0078	0.0078	0.0085	0.0092	2997.2812	1.8822	0.0679
(69,79]	ma8	0.0234	0.0256	0.0276	0.0277	0.0300	0.0332	2216.5170	1.6359	0.1047
(79,89]	ma9	0.0756	0.0818	0.0897	0.0899	0.0986	0.1068	1878.6261	0.6926	0.3139
(89,999]	ma10	0.1350	0.1462	0.1622	0.1627	0.1818	0.2073	739.9266	3.3019	0.0017

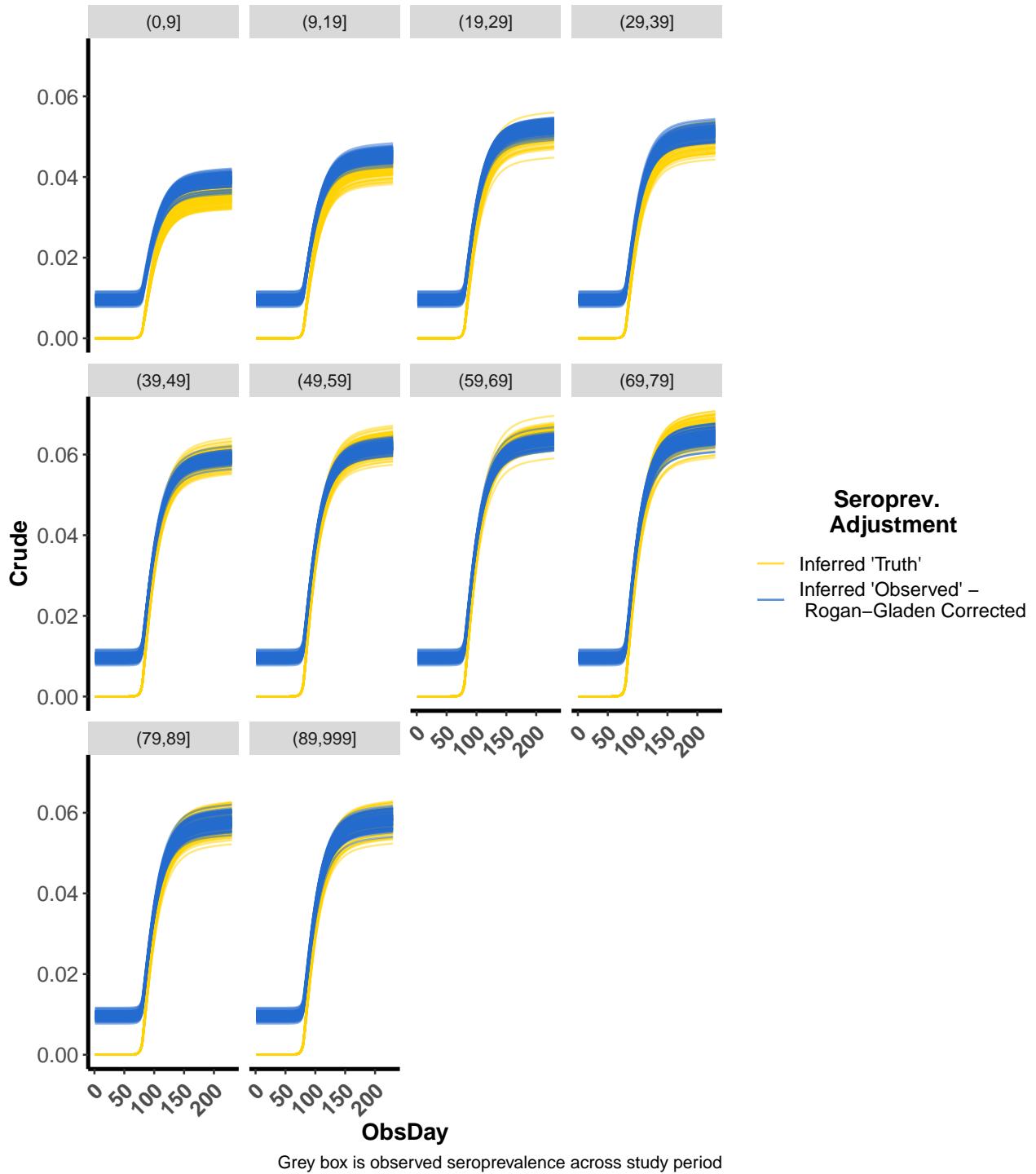
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0108	0.0113	0.0119	0.012	0.0127	0.0137	3237.128	-0.5148	0.3494

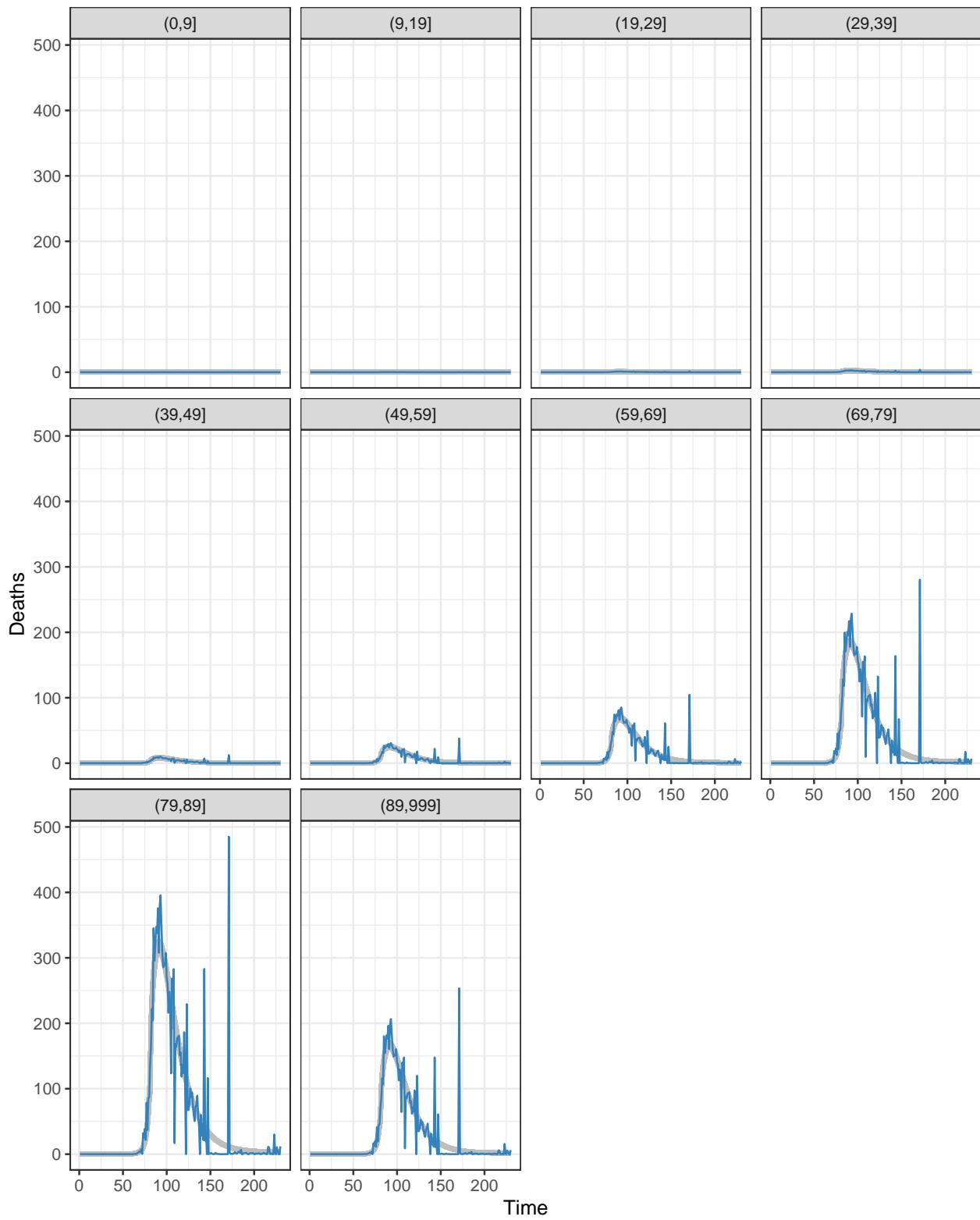
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0110	0.0114	0.0120	0.0120	0.0127	0.0133	293.0168	-0.0881	0.3974
chain2	0.0109	0.0113	0.0119	0.0119	0.0127	0.0133	187.8487	0.0713	0.3979
chain3	0.0110	0.0113	0.0120	0.0120	0.0127	0.0132	146.6631	-1.1407	0.2081
chain4	0.0111	0.0114	0.0120	0.0120	0.0126	0.0132	198.8283	-0.0641	0.3981
chain5	0.0111	0.0113	0.0120	0.0120	0.0128	0.0133	277.5935	1.2553	0.1814
chain6	0.0109	0.0113	0.0119	0.0120	0.0127	0.0137	310.7316	1.6184	0.1077
chain7	0.0110	0.0113	0.0119	0.0119	0.0127	0.0133	232.5298	-0.8109	0.2872
chain8	0.0111	0.0114	0.0119	0.0119	0.0127	0.0131	198.7162	-0.3537	0.3748
chain9	0.0108	0.0113	0.0119	0.0119	0.0127	0.0130	249.7628	-0.7662	0.2975
chain10	0.0110	0.0112	0.0119	0.0119	0.0126	0.0129	307.0683	-0.1438	0.3948



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

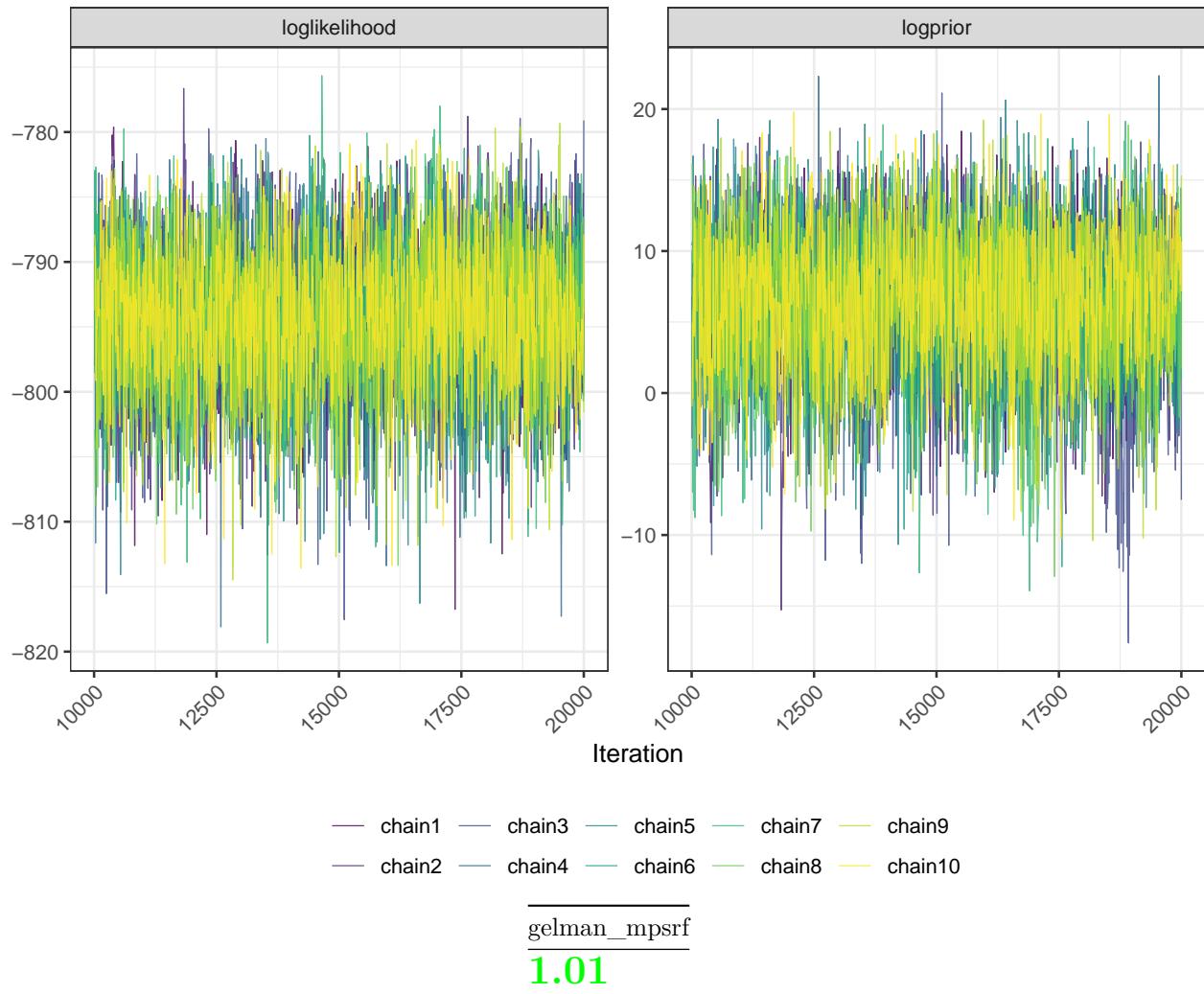
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	4.8979	56.2961	65.7641	65.7407	78.6569	78.7970	363.5787	-1.1957	0.1952
x2	78.4716	79.0893	82.9083	82.7315	83.9856	84.9942	179.0042	-0.3524	0.3749
x3	79.4078	79.5291	85.3285	85.1689	86.7280	88.0509	132.7379	1.7198	0.0909
x4	214.0000	214.1942	218.8007	219.5756	228.7169	229.9762	406.9184	-0.8090	0.2876
y1	0.0000	0.0329	0.8207	1.0039	2.8924	5.0177	3765.6432	-0.5985	0.3335
y2	0.0167	2.9447	7.3897	7.2564	11.7923	12.0664	415.8762	-1.5705	0.1162
y3	11.7667	11.9047	12.0175	12.0176	12.1219	12.3353	694.4708	-1.1148	0.2143
y4	11.3857	11.5597	11.7348	11.7392	11.9425	12.2253	242.1743	-2.2937	0.0287
y5	6.1163	6.4482	6.7270	6.7367	7.0635	7.3798	880.1256	-1.7262	0.0899
Ne1	0.5087	0.5660	0.6315	0.6320	0.6982	0.7547	7937.6049	1.5063	0.1283
Ne10	0.8657	0.9485	1.0396	1.0403	1.1326	1.2089	958.2475	-2.8900	0.0061
Ne2	0.6169	0.7016	0.7627	0.7625	0.8228	0.8870	7035.1133	0.5565	0.3417
Ne3	0.7867	0.8425	0.9065	0.9067	0.9730	1.0403	7487.3013	1.2557	0.1814
Ne4	0.7821	0.8177	0.8803	0.8805	0.9449	1.0054	7791.6848	0.9348	0.2577
Ne5	0.9511	0.9971	1.0560	1.0560	1.1145	1.1855	5780.4254	2.2768	0.0299
Ne6	0.9965	1.0510	1.1118	1.1119	1.1736	1.2326	5468.3859	2.2288	0.0333
Ne7	1.0112	1.0837	1.1431	1.1439	1.2082	1.2641	5089.4727	1.5539	0.1193
Ne8	1.0388	1.0994	1.1656	1.1657	1.2339	1.2891	3629.4751	1.0212	0.2368
Ne9	0.8998	0.9536	1.0308	1.0303	1.1065	1.1966	2096.4658	1.0003	0.2419

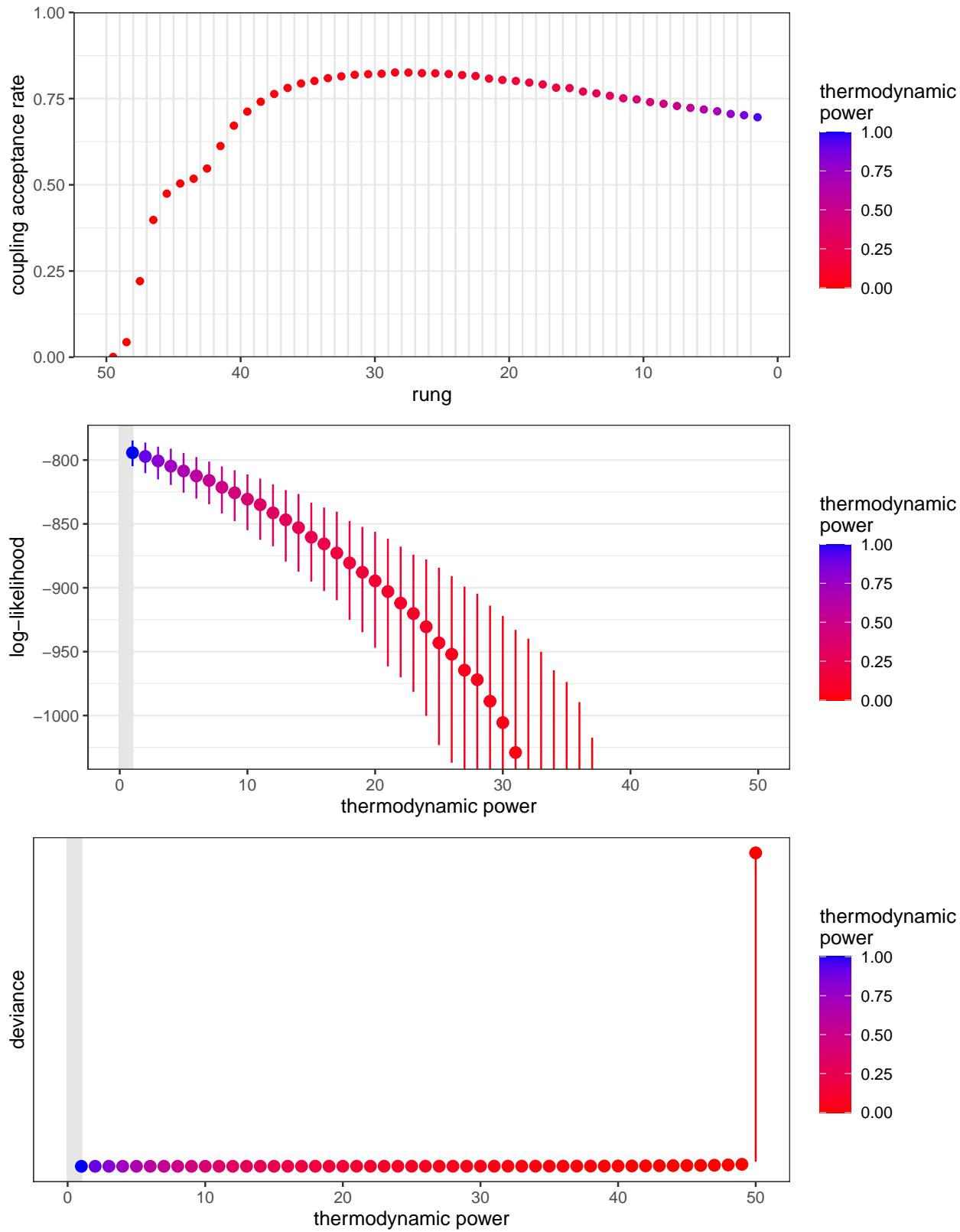
GBR3 with Standard Input

Fit Diagnostics

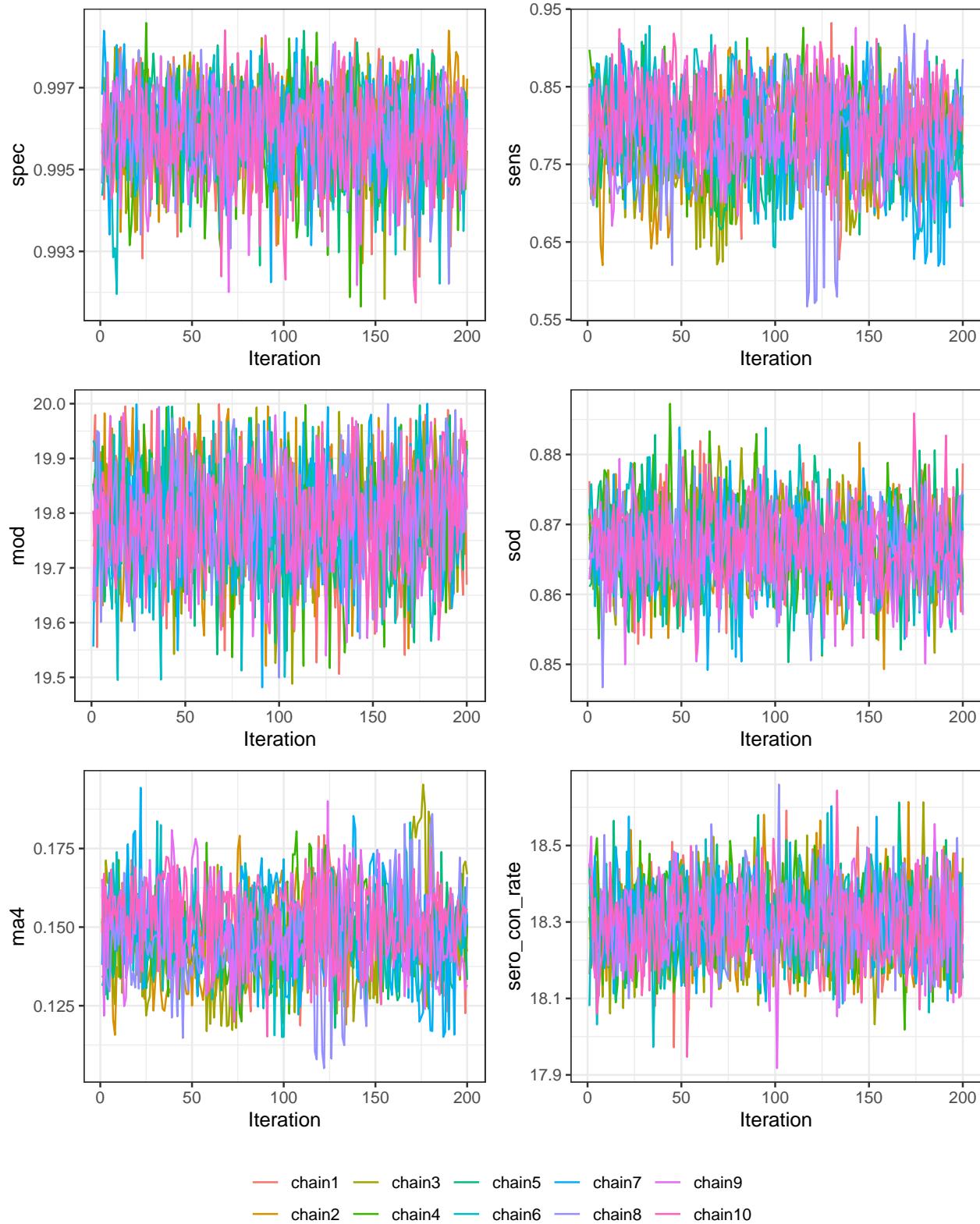
Log Likelihood & Prior Plot



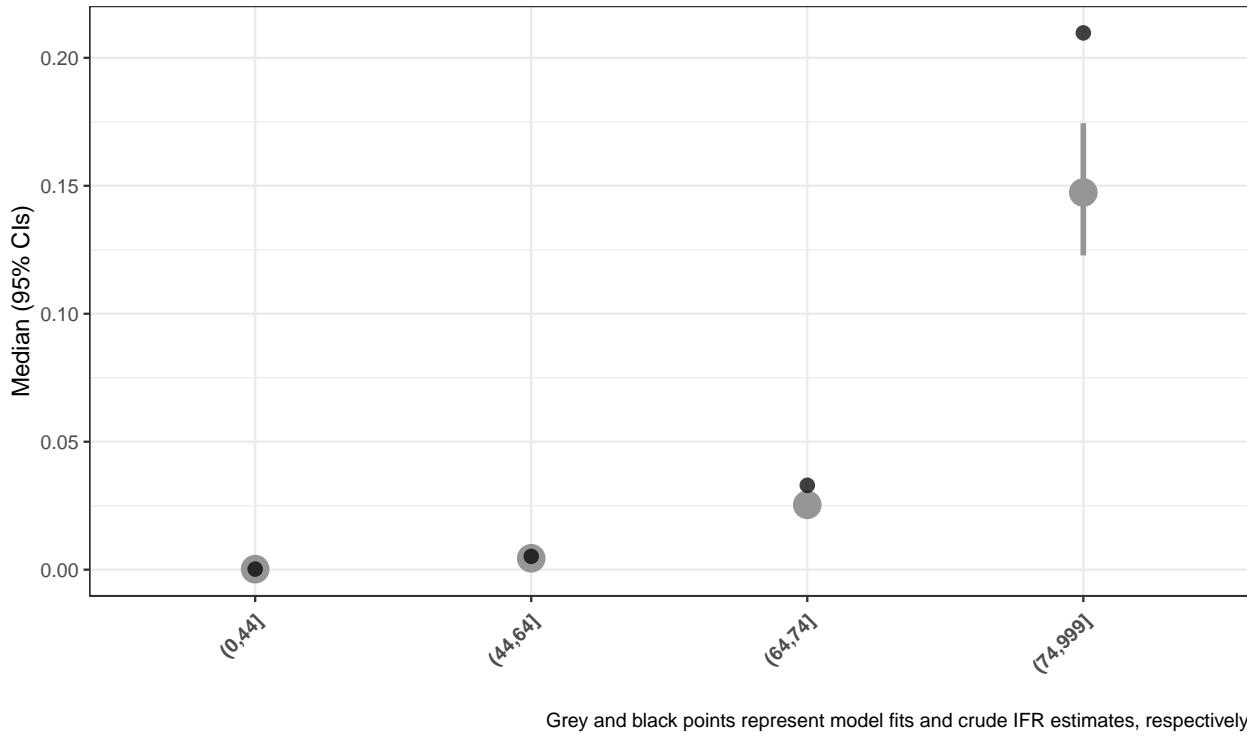
Metropolis Coupling Acceptance Plot



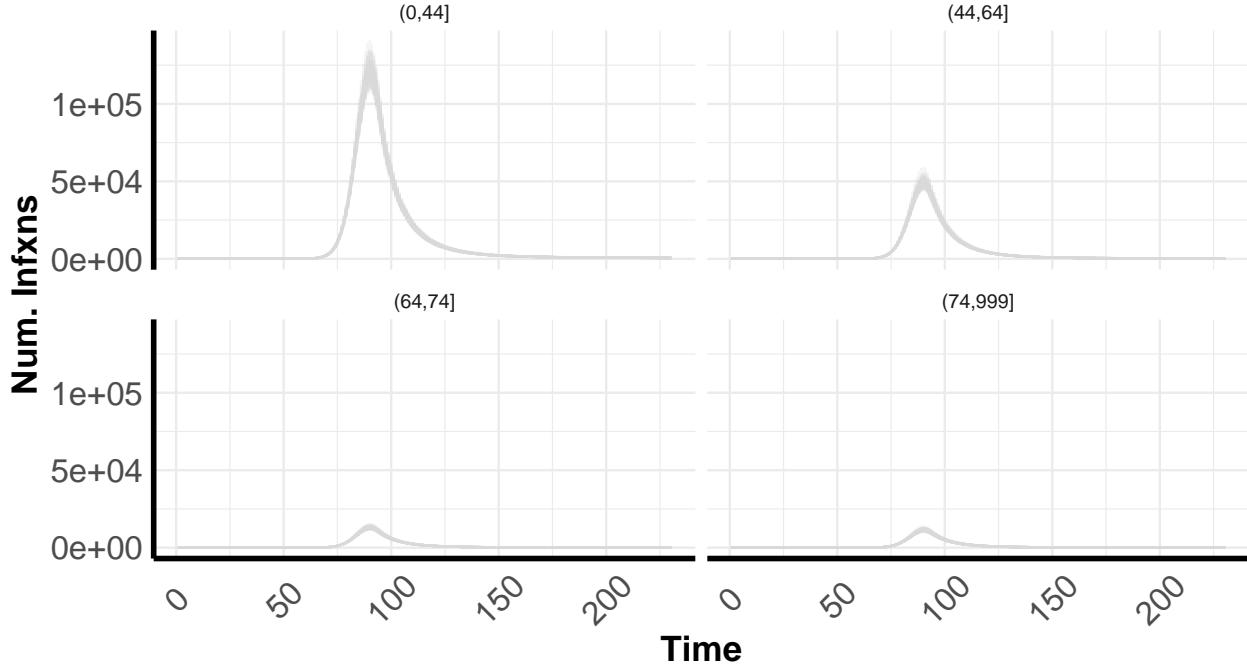
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



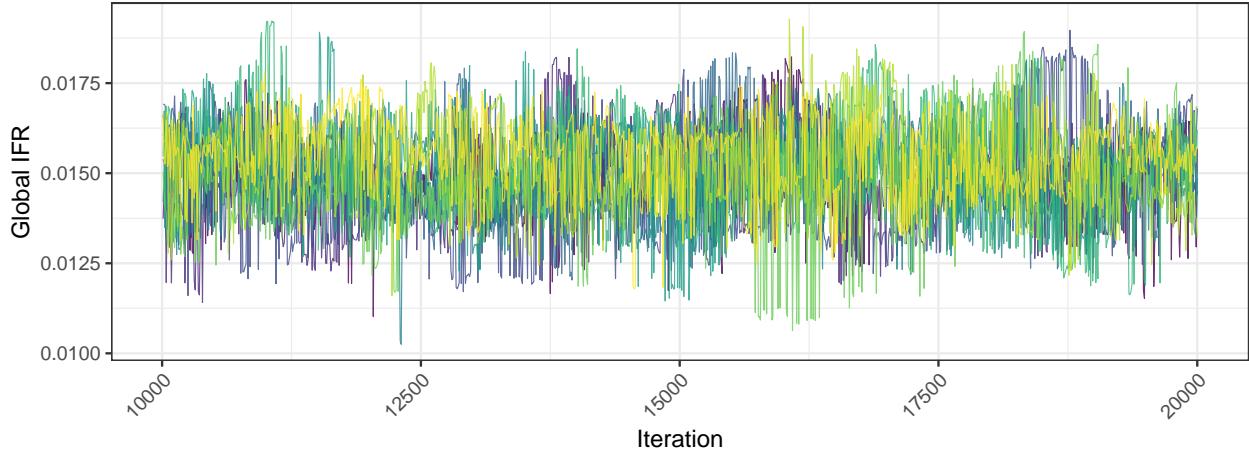
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,44]	ma1	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	781.9612	-0.2936	0.3821
(44,64]	ma2	0.0030	0.0037	0.0044	0.0044	0.0051	0.0055	530.1942	-0.2734	0.3843
(64,74]	ma3	0.0175	0.0211	0.0253	0.0253	0.0296	0.0332	515.3104	-1.1984	0.1946
(74,999]	ma4	0.0983	0.1228	0.1474	0.1478	0.1745	0.1954	447.4342	-0.8375	0.2809

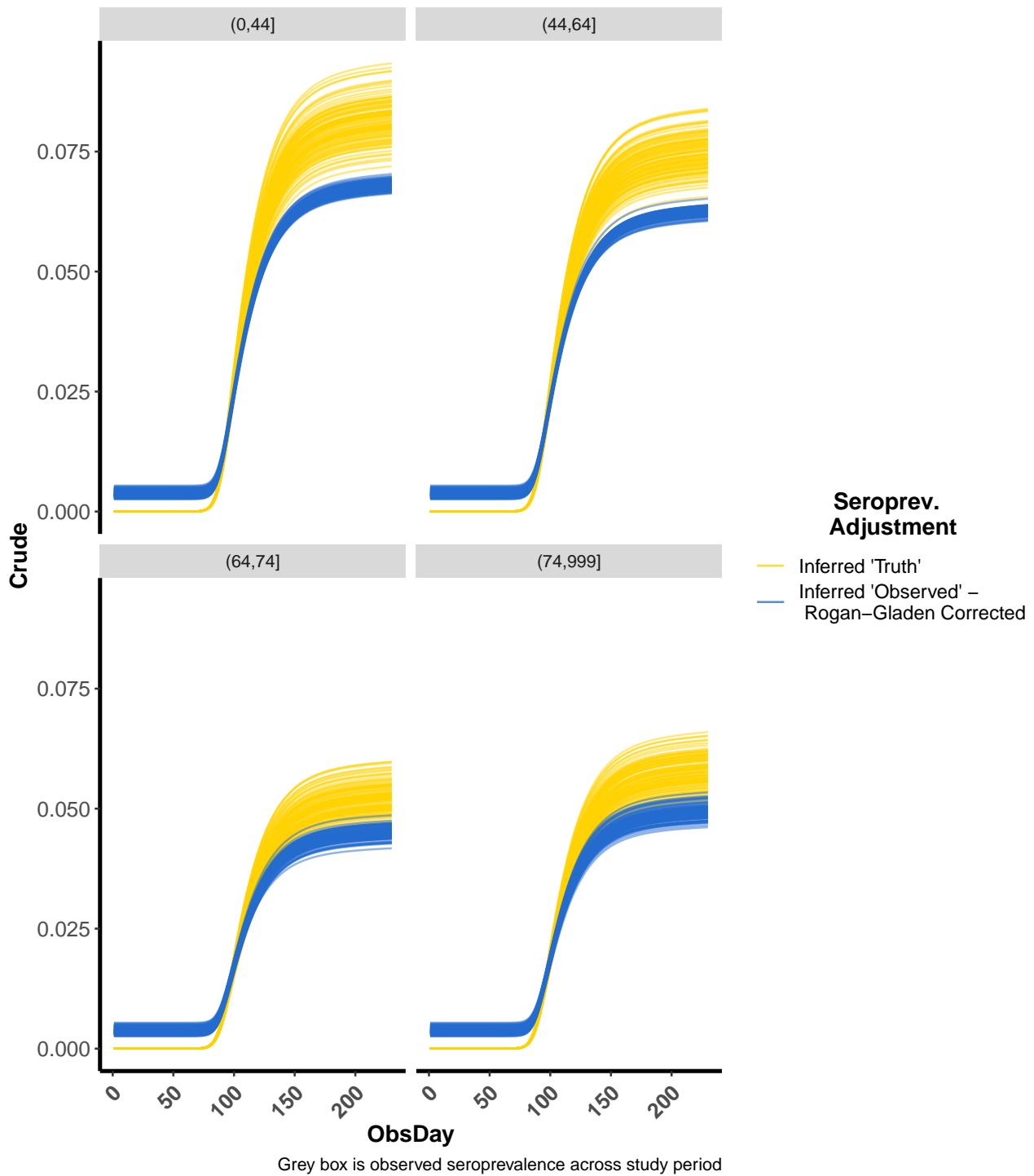
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0082	0.0099	0.0117	0.0117	0.0133	0.0146	2315.439	1.7322	0.089

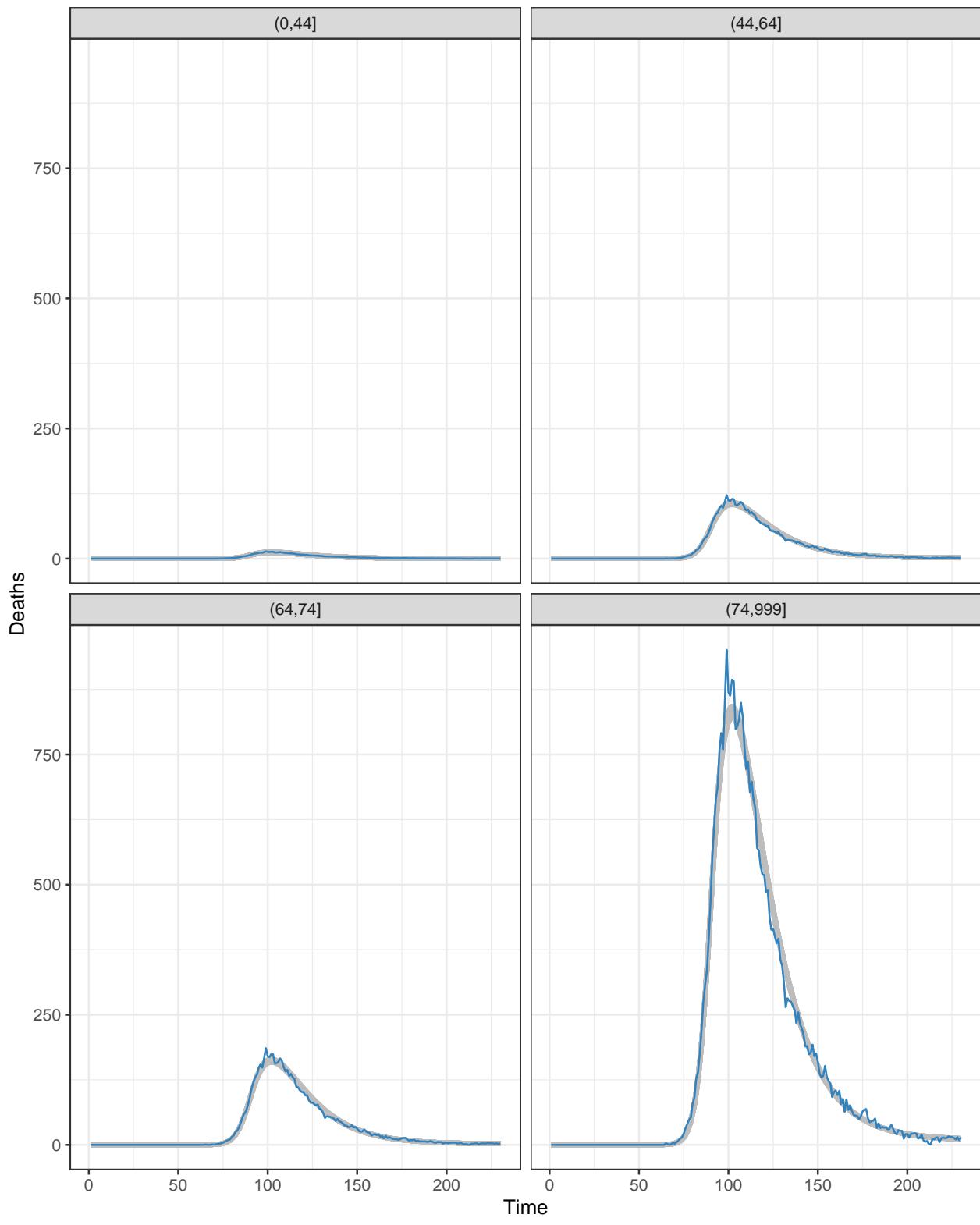
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0090	0.0099	0.0118	0.0117	0.0131	0.0138	126.1415	1.5617	0.1178
chain2	0.0090	0.0097	0.0113	0.0114	0.0133	0.0141	63.6603	-0.9884	0.2448
chain3	0.0091	0.0095	0.0115	0.0114	0.0131	0.0136	66.1148	0.2059	0.3906
chain4	0.0093	0.0101	0.0118	0.0118	0.0134	0.0139	48.2580	0.3297	0.3778
chain5	0.0082	0.0100	0.0116	0.0115	0.0129	0.0141	81.2244	0.1413	0.3950
chain6	0.0092	0.0098	0.0118	0.0118	0.0136	0.0143	105.4832	2.7894	0.0082
chain7	0.0090	0.0097	0.0118	0.0117	0.0133	0.0142	67.1789	2.8325	0.0072
chain8	0.0082	0.0089	0.0115	0.0115	0.0135	0.0143	98.2442	-4.0714	0.0001
chain9	0.0095	0.0102	0.0118	0.0118	0.0134	0.0146	87.7335	0.3103	0.3802
chain10	0.0096	0.0103	0.0121	0.0120	0.0133	0.0140	255.0802	0.2922	0.3823



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

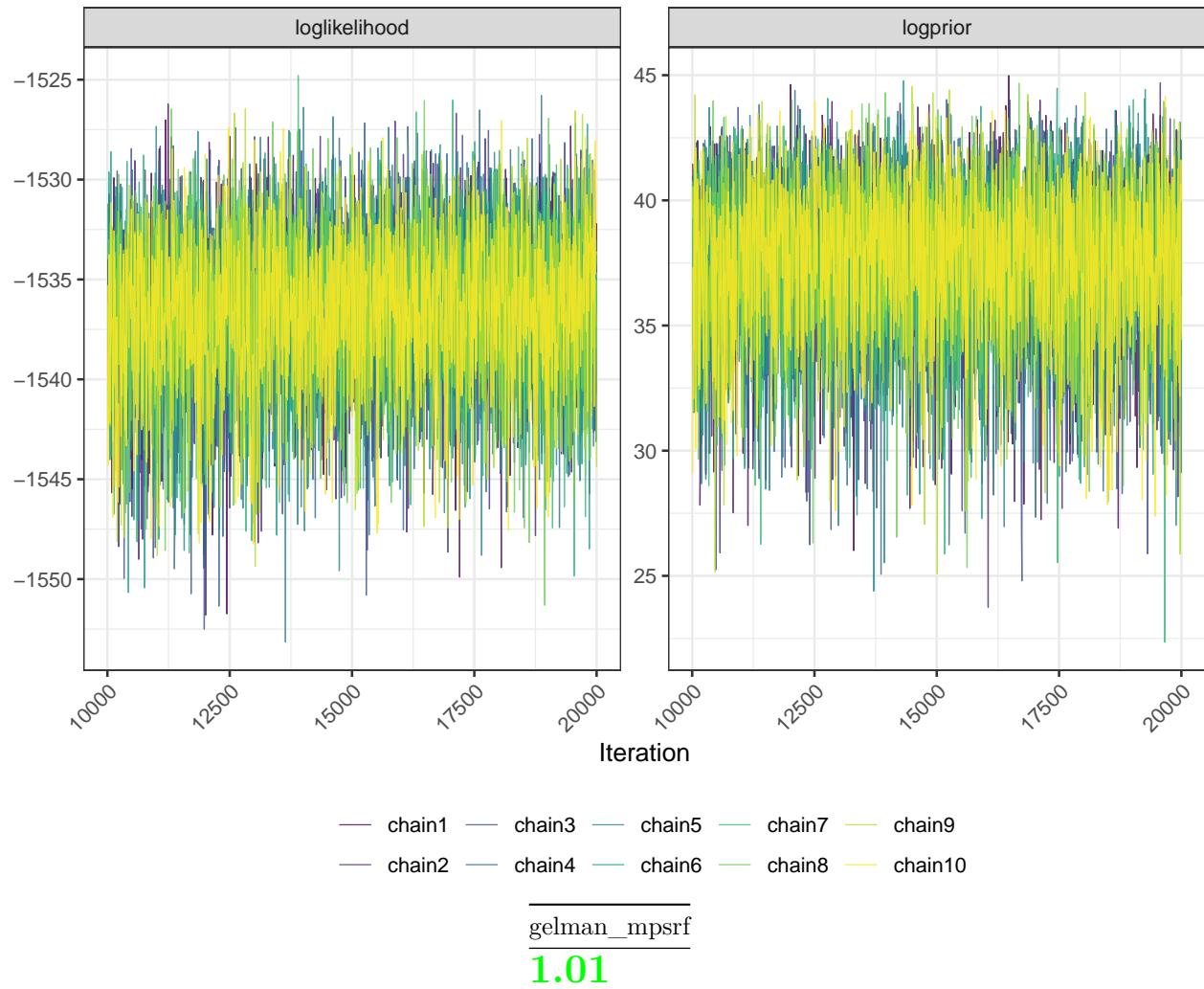
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.4266	4.6002	52.3182	50.8536	62.9229	66.8578	432.1037	-0.6996	0.3124
x2	88.7400	90.3478	92.2561	92.1793	93.5471	94.7241	504.3029	-0.3212	0.3789
x3	93.2492	94.3626	95.6841	95.7242	97.4667	98.7703	307.1712	2.8919	0.0061
x4	214.0000	214.0757	216.1834	217.2949	227.0033	229.9909	507.5185	0.1430	0.3949
y1	0.0004	0.0543	1.1245	1.3192	3.5940	5.0358	2882.6226	2.0136	0.0525
y2	0.0008	0.1539	2.7337	2.7974	6.2387	7.4400	314.4703	-3.0399	0.0039
y3	11.8251	11.9695	12.1204	12.1252	12.3063	12.5219	456.4885	0.4938	0.3531
y4	11.4810	11.6069	11.8165	11.8185	12.0277	12.1958	352.6836	-1.5066	0.1282
y5	6.6063	6.8033	7.0082	7.0093	7.2257	7.4270	699.7542	0.8631	0.2749
Ne1	1.0776	1.1226	1.1895	1.1898	1.2585	1.3234	1864.0644	0.6813	0.3163
Ne2	0.9692	1.0238	1.0861	1.0867	1.1517	1.2059	2492.5525	0.1700	0.3932
Ne3	0.6508	0.6961	0.7592	0.7594	0.8248	0.8931	2476.2925	2.4559	0.0196
Ne4	0.6786	0.7667	0.8442	0.8446	0.9206	0.9886	691.2494	1.1988	0.1945

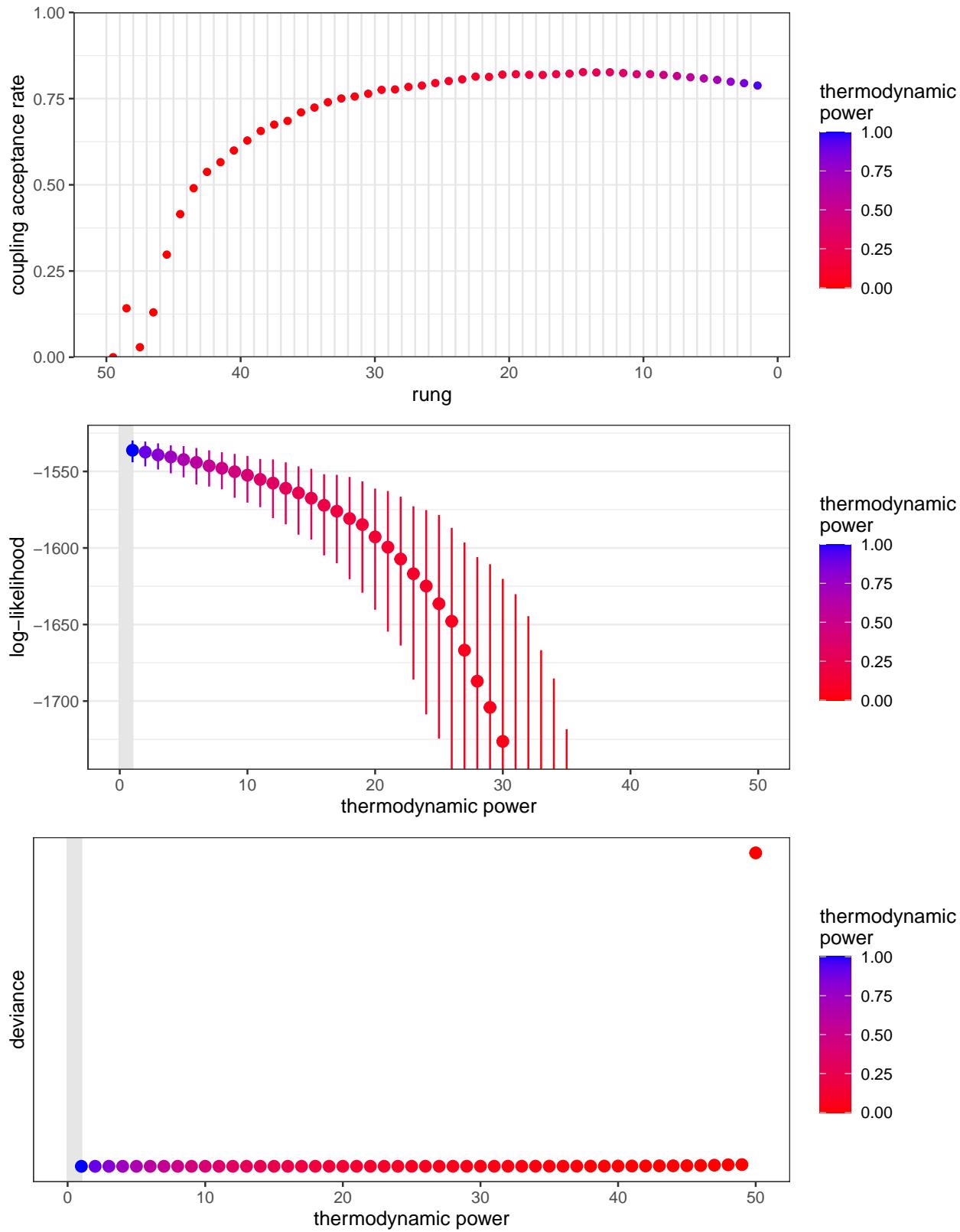
ITA1 with Standard Input

Fit Diagnostics

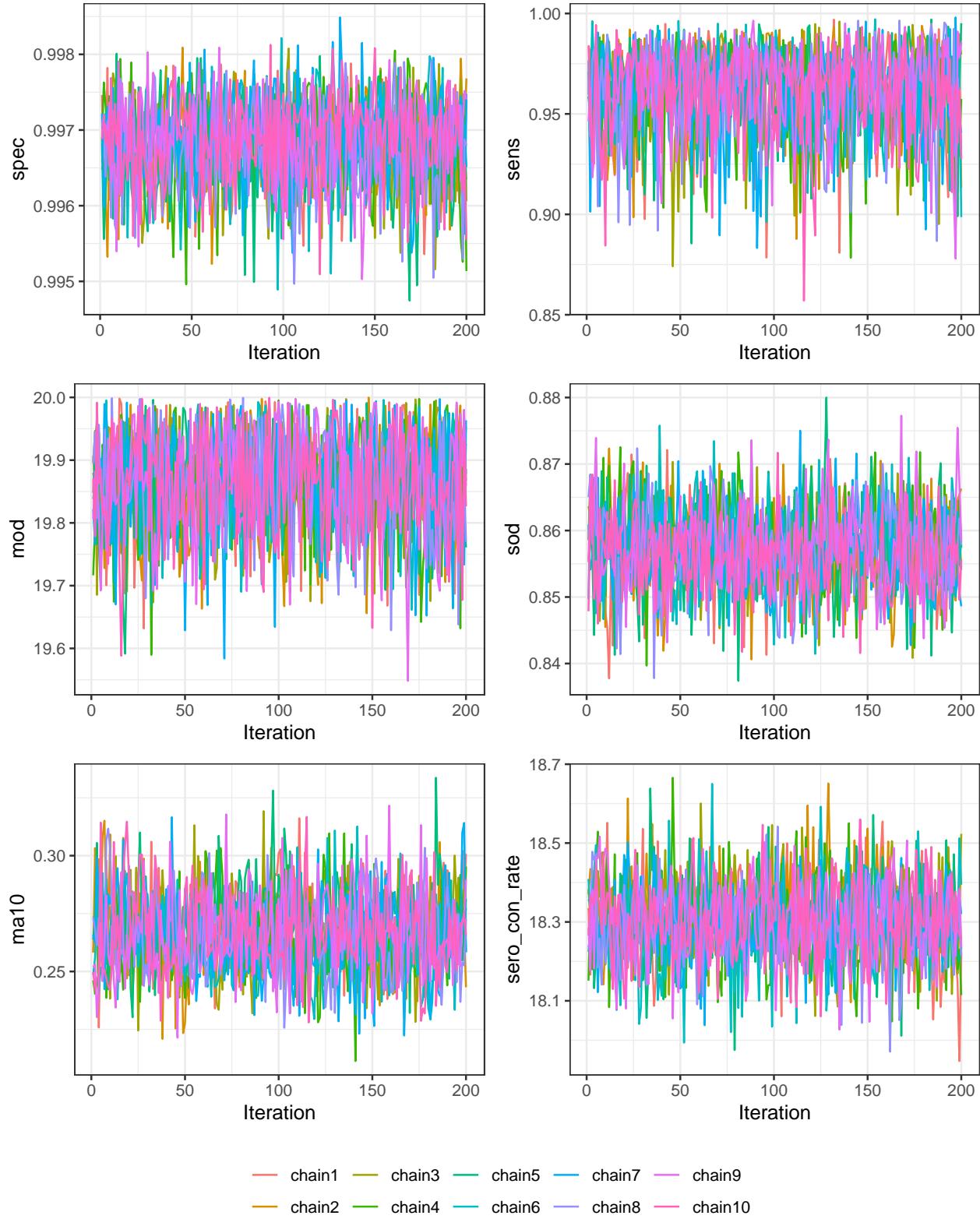
Log Likelihood & Prior Plot



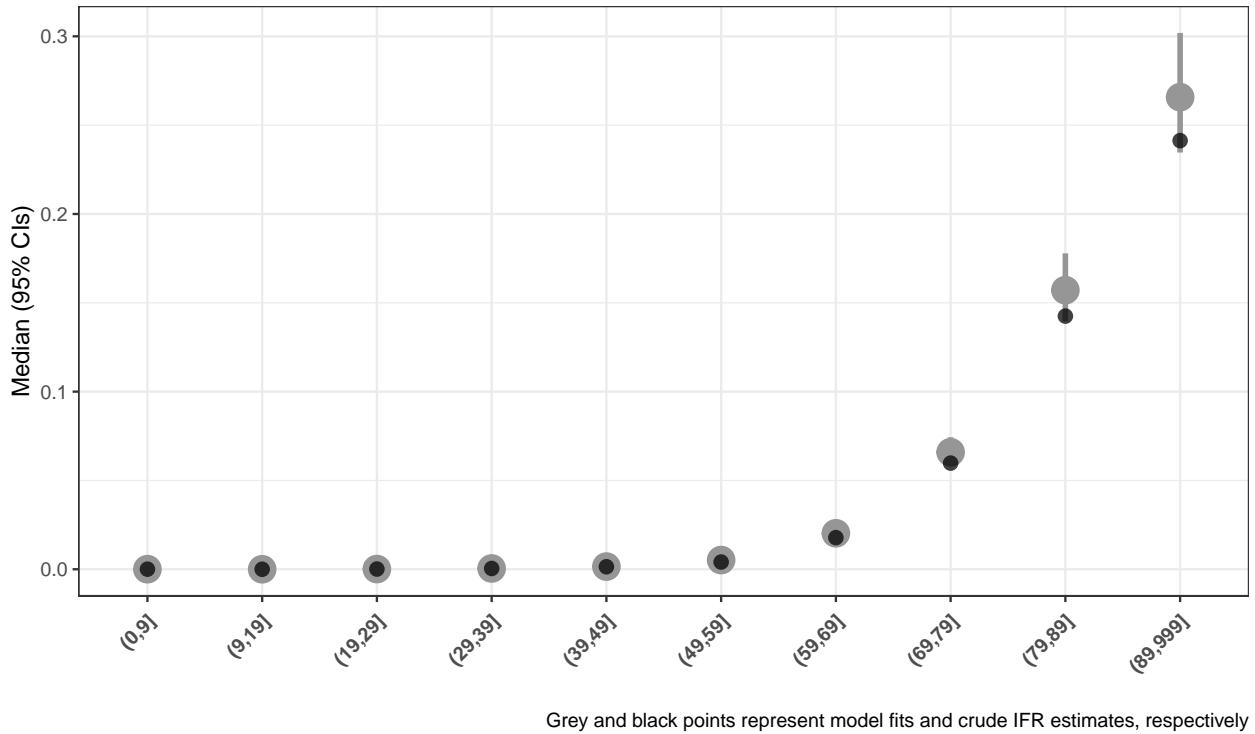
Metropolis Coupling Acceptance Plot



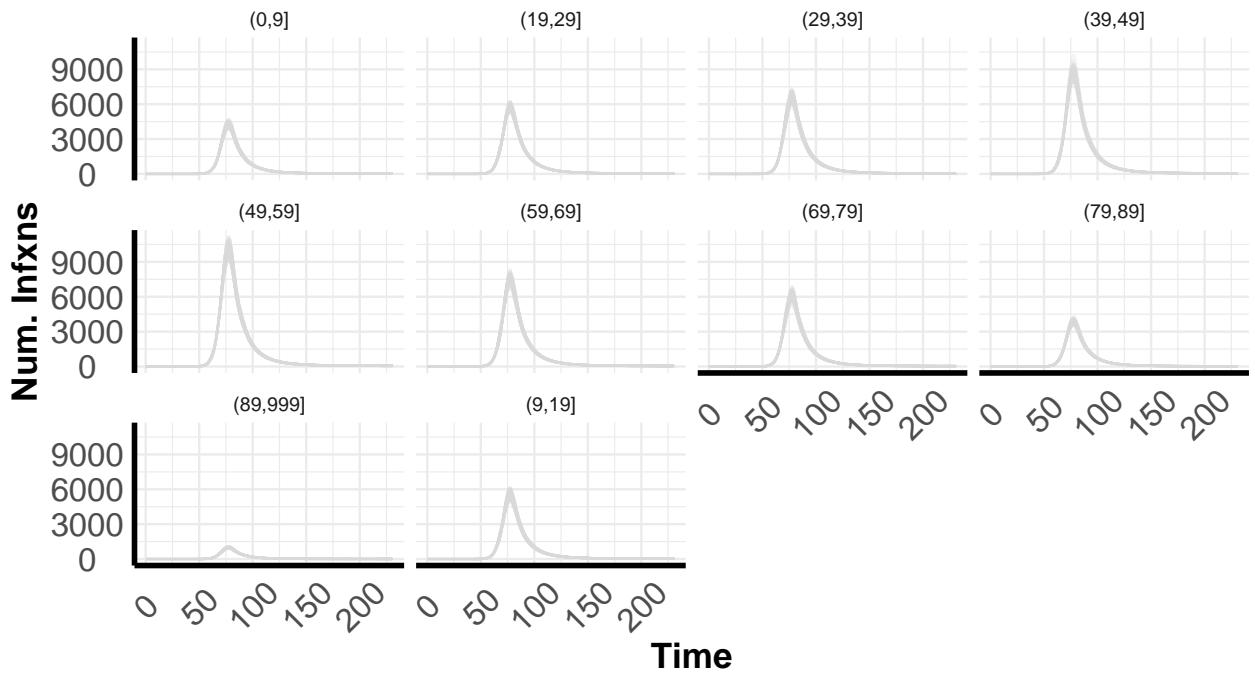
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



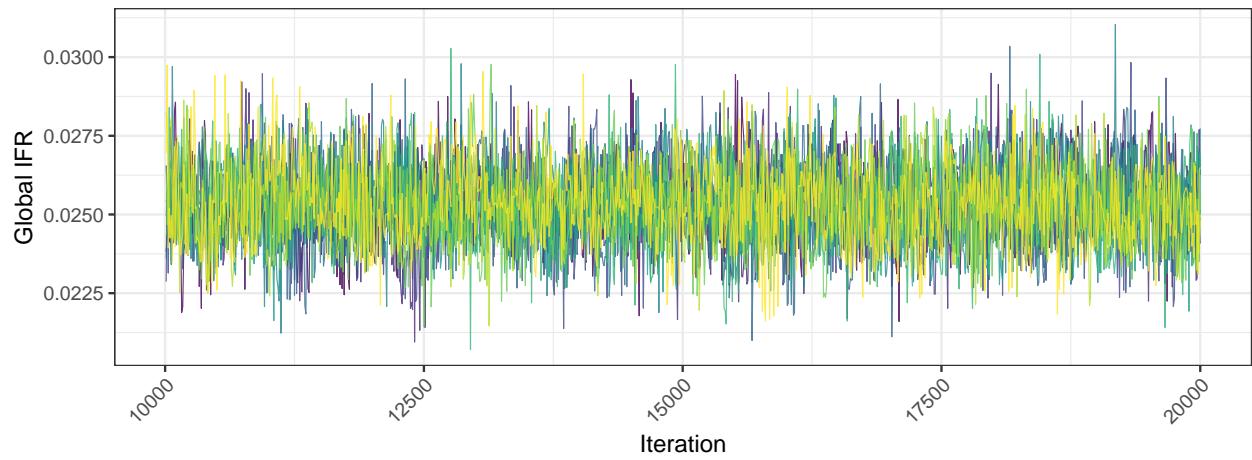
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	9556.552	-0.4159	0.3659
(9,19]	ma2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9236.634	0.4760	0.3562
(19,29]	ma3	0.0000	0.0001	0.0001	0.0001	0.0002	0.0002	9614.754	1.0020	0.2415
(29,39]	ma4	0.0003	0.0003	0.0004	0.0004	0.0006	0.0007	8630.787	-0.5606	0.3409
(39,49]	ma5	0.0011	0.0013	0.0015	0.0015	0.0018	0.0021	6482.459	-0.3495	0.3753
(49,59]	ma6	0.0039	0.0045	0.0052	0.0052	0.0059	0.0067	4725.716	0.5701	0.3391
(59,69]	ma7	0.0160	0.0178	0.0202	0.0203	0.0230	0.0262	3751.599	0.2283	0.3887
(69,79]	ma8	0.0509	0.0583	0.0659	0.0660	0.0743	0.0865	3358.312	0.2181	0.3896
(79,89]	ma9	0.1231	0.1397	0.1571	0.1576	0.1778	0.1991	3223.449	-0.3185	0.3792
(89,999]	ma10	0.2113	0.2346	0.2658	0.2665	0.3019	0.3448	1884.905	2.5473	0.0156

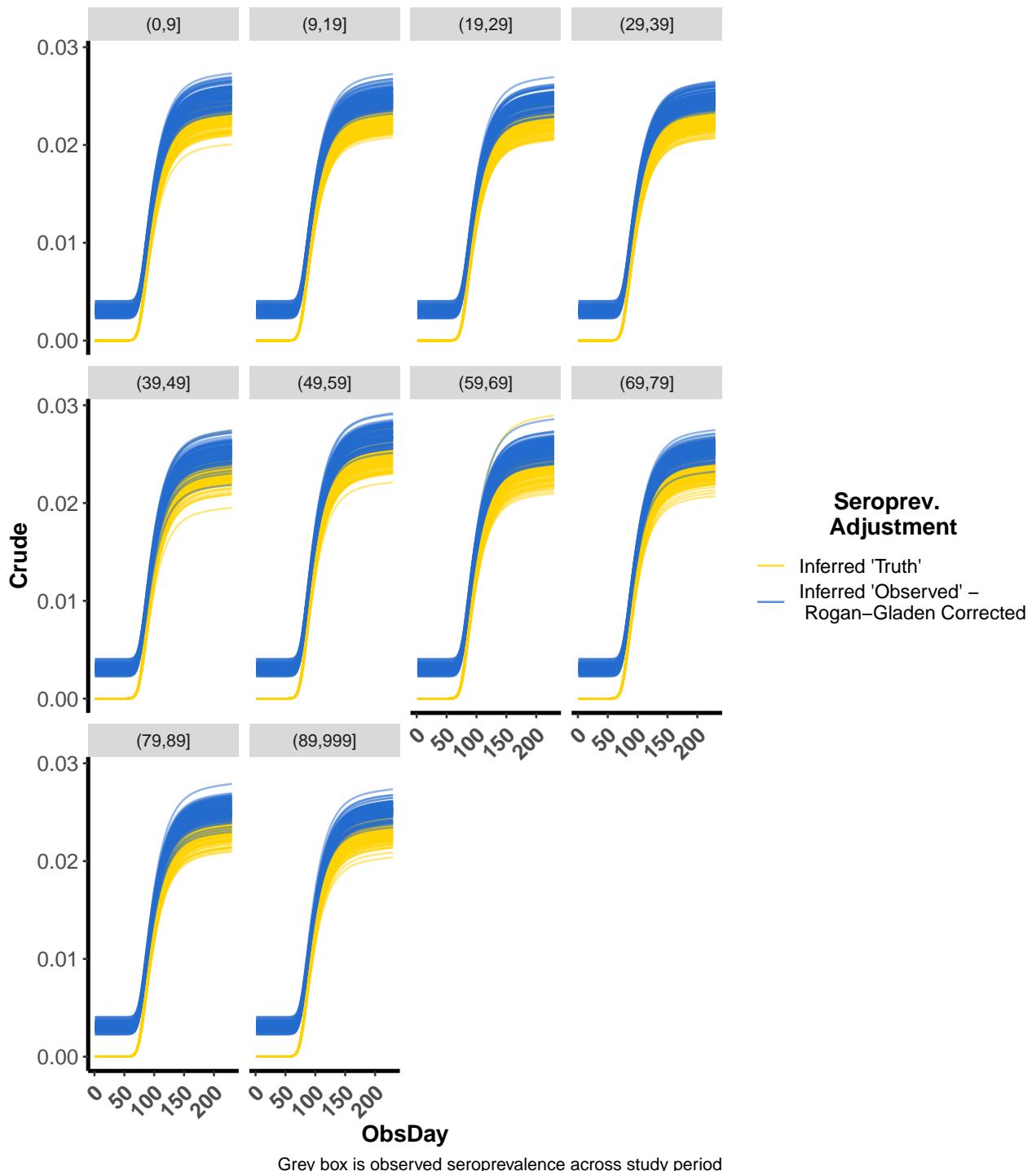
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0209	0.0231	0.0253	0.0253	0.0277	0.03	6387.845	0.5838	0.3364

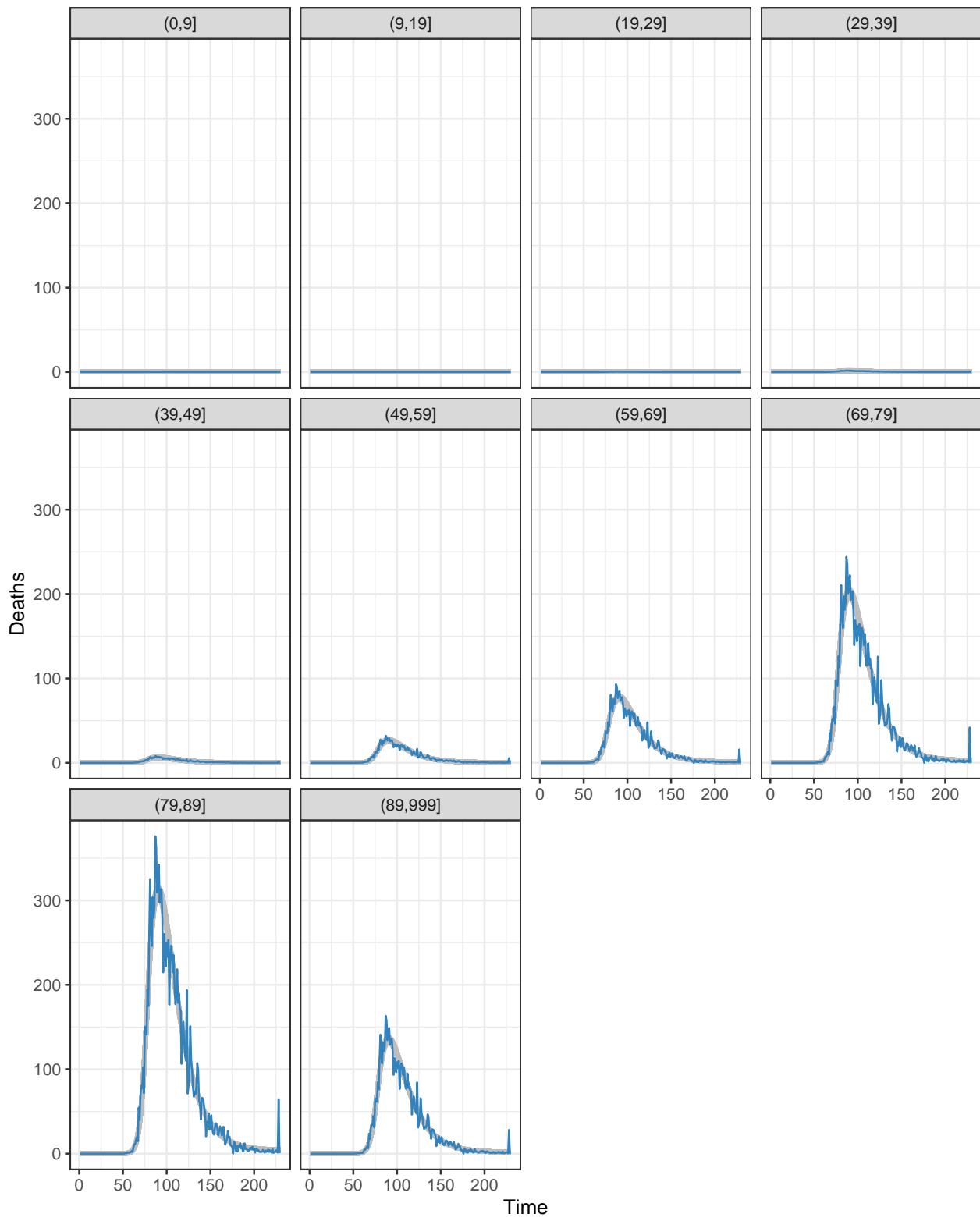
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0219	0.0232	0.0253	0.0254	0.0278	0.0292	305.9051	-3.8591	0.0002
chain2	0.0212	0.0231	0.0254	0.0254	0.0277	0.0296	377.1425	1.7337	0.0888
chain3	0.0218	0.0231	0.0253	0.0253	0.0276	0.0300	496.3770	-1.7644	0.0841
chain4	0.0215	0.0229	0.0252	0.0252	0.0276	0.0291	332.5306	2.6190	0.0129
chain5	0.0215	0.0232	0.0255	0.0255	0.0277	0.0295	379.6175	-0.6760	0.3174
chain6	0.0222	0.0232	0.0252	0.0252	0.0274	0.0286	521.4932	1.4415	0.1412
chain7	0.0209	0.0228	0.0253	0.0252	0.0275	0.0297	359.5632	4.7881	0.0000
chain8	0.0219	0.0232	0.0255	0.0254	0.0278	0.0294	446.6294	-1.0103	0.2395
chain9	0.0217	0.0232	0.0253	0.0254	0.0278	0.0286	432.2242	-0.7400	0.3034
chain10	0.0219	0.0231	0.0253	0.0254	0.0278	0.0294	390.2156	0.6152	0.3302



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

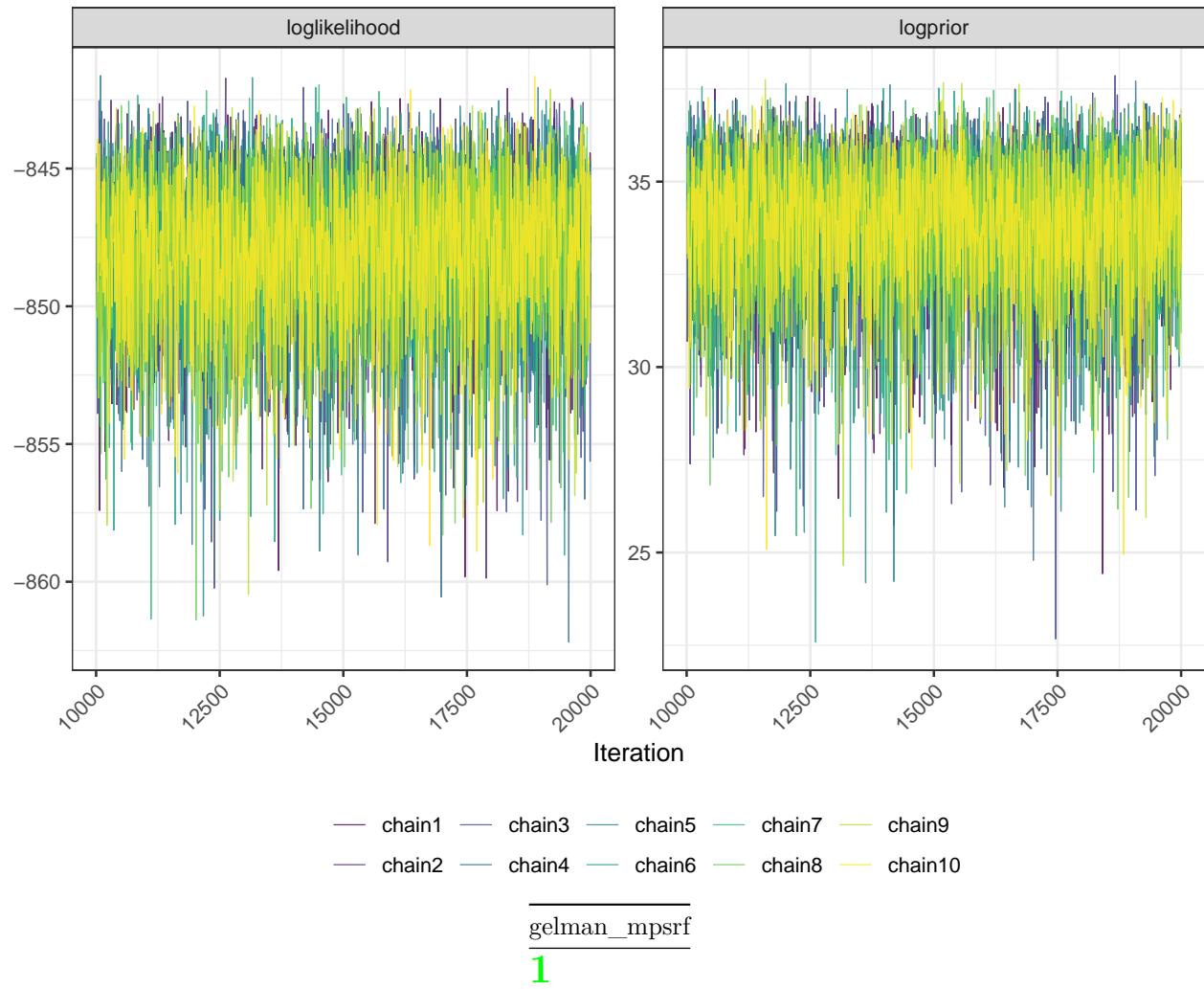
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.7662	3.3069	34.7458	30.2536	44.3292	53.8310	525.4974	-0.3767	0.3716
x2	67.6513	71.2379	77.1873	76.7570	79.8598	81.4080	678.9745	0.5419	0.3445
x3	80.9523	82.2935	84.8552	85.0988	89.0292	91.6058	499.9958	-0.3102	0.3802
x4	214.3605	221.1063	228.1083	227.4055	229.9372	229.9995	1286.1672	3.4777	0.0009
y1	0.0001	0.0461	1.0717	1.3181	3.4400	4.8219	1357.5410	0.8518	0.2776
y2	0.0001	0.0294	0.8105	1.0512	3.3734	5.9534	1381.9294	0.0089	0.3989
y3	10.0340	10.5980	10.9604	10.9352	11.0663	11.1691	966.1077	0.7940	0.2911
y4	9.9246	10.1851	10.5186	10.5036	10.7412	10.9052	531.2759	0.2220	0.3892
y5	5.3224	5.5942	5.8209	5.8200	6.0457	6.2758	4994.9270	0.3725	0.3722
Ne1	0.7701	0.8926	0.9854	0.9851	1.0759	1.1820	10000.0000	-0.8599	0.2756
Ne10	0.8257	0.9167	1.0030	1.0036	1.0902	1.1716	2231.7015	-2.9713	0.0048
Ne2	0.8127	0.8910	0.9852	0.9847	1.0783	1.1588	9208.8561	0.8855	0.2696
Ne3	0.7934	0.8711	0.9612	0.9617	1.0518	1.1449	8866.1438	-0.4167	0.3658
Ne4	0.8224	0.8888	0.9746	0.9754	1.0642	1.1622	9299.2649	0.3481	0.3755
Ne5	0.8214	0.9059	0.9919	0.9920	1.0796	1.1945	8073.7595	0.9800	0.2468
Ne6	0.9215	0.9917	1.0746	1.0754	1.1604	1.2279	6854.4739	-0.3779	0.3714
Ne7	0.8574	0.9276	1.0122	1.0126	1.0994	1.1768	5833.4683	0.6008	0.3331
Ne8	0.8395	0.9165	1.0046	1.0039	1.0911	1.1640	3965.0241	-0.2894	0.3826
Ne9	0.8387	0.9150	1.0027	1.0025	1.0908	1.1578	3312.2972	0.9307	0.2587

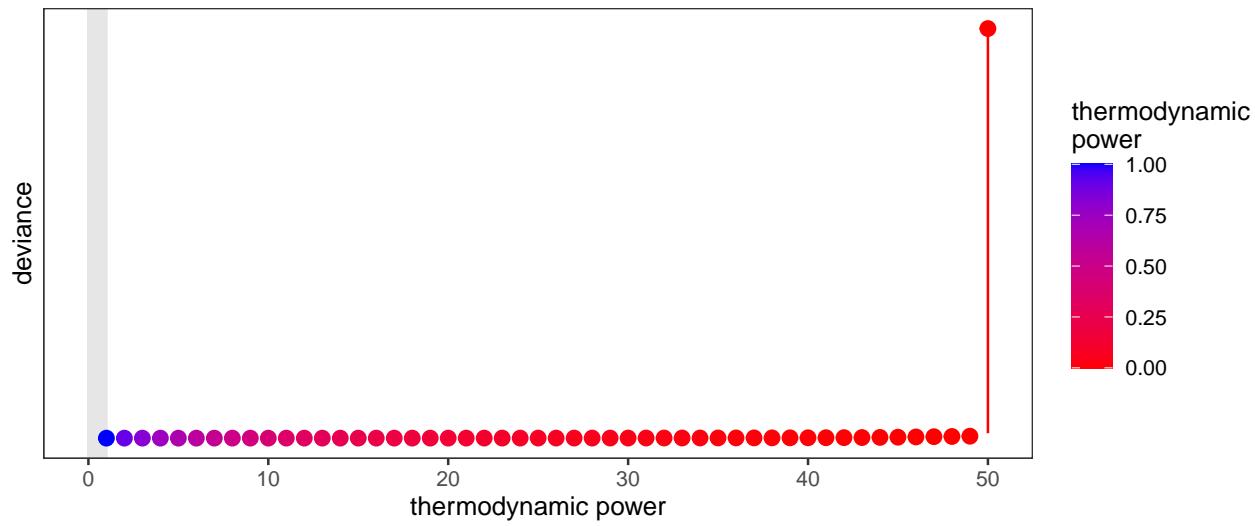
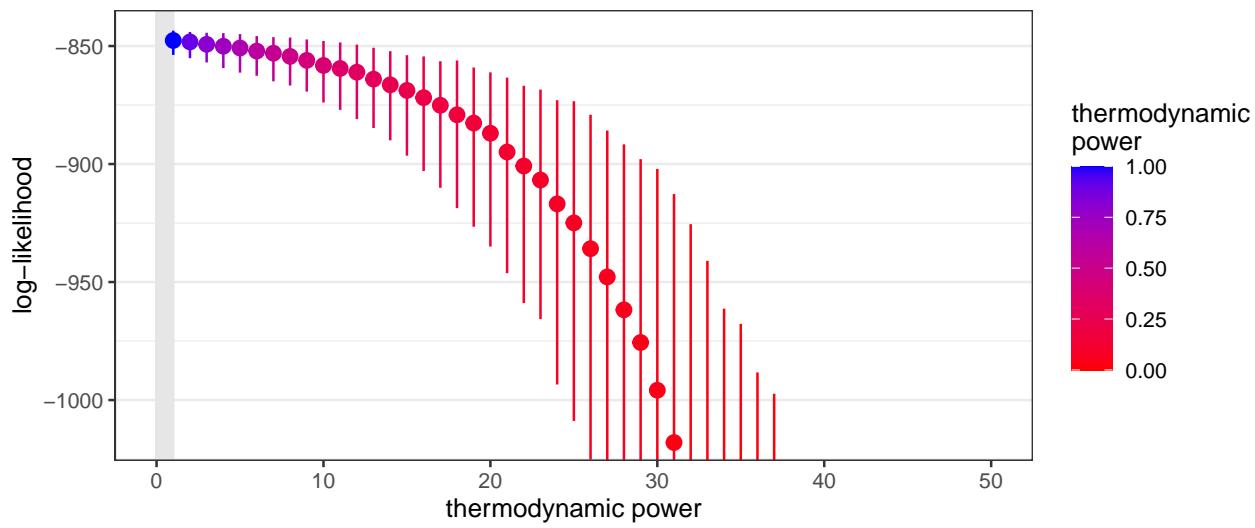
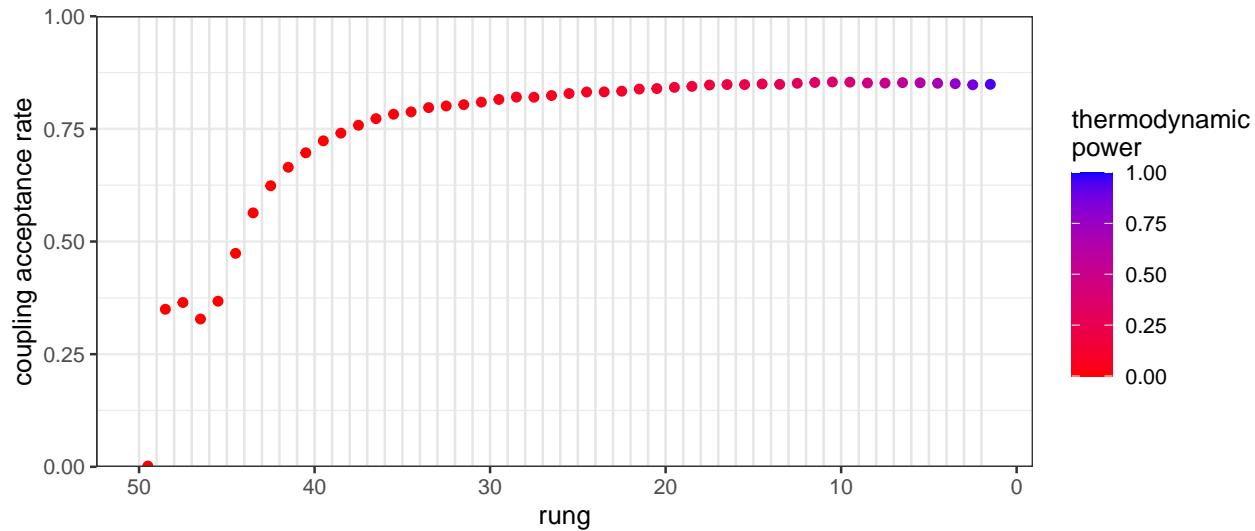
NLD1 with Standard Input

Fit Diagnostics

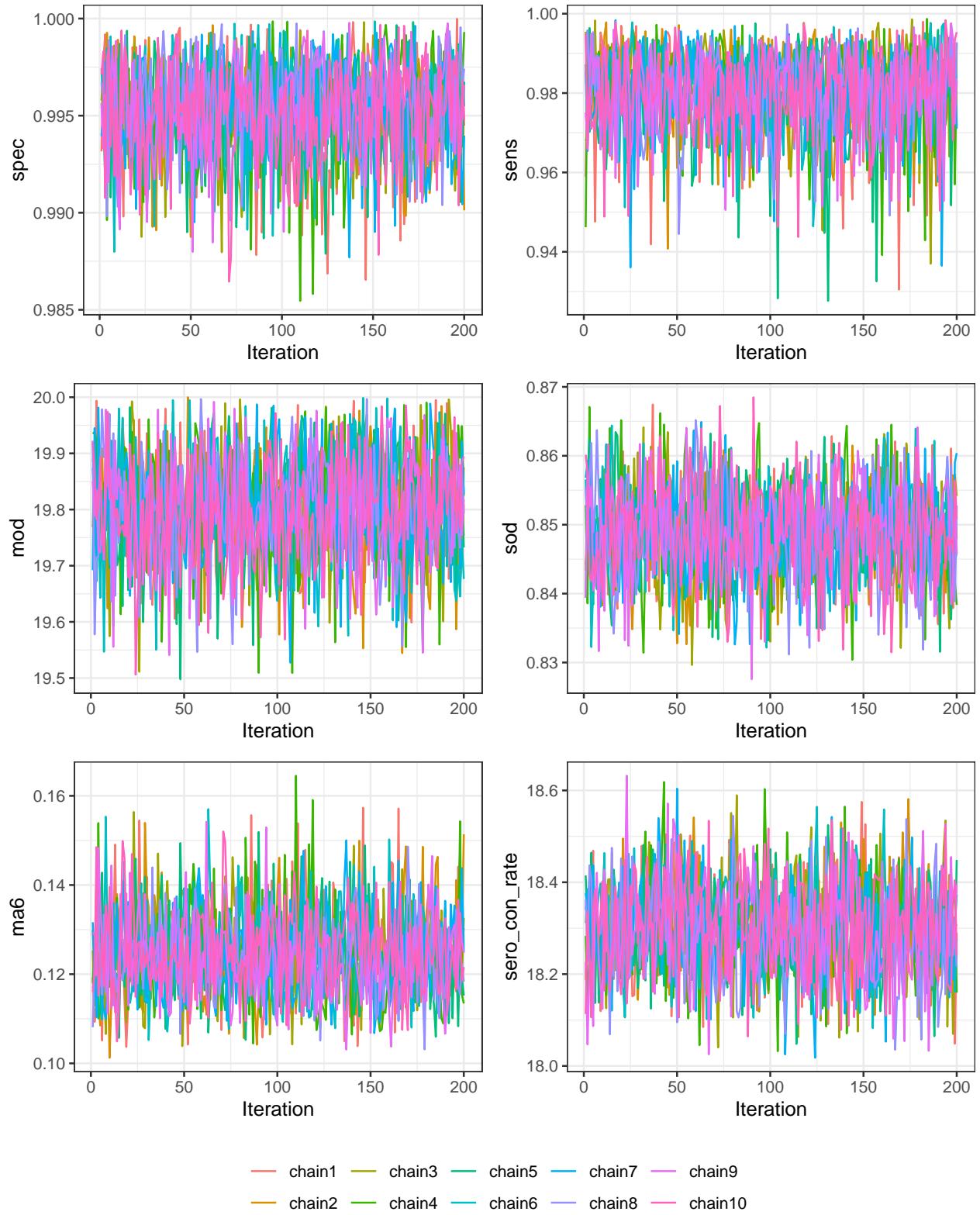
Log Likelihood & Prior Plot



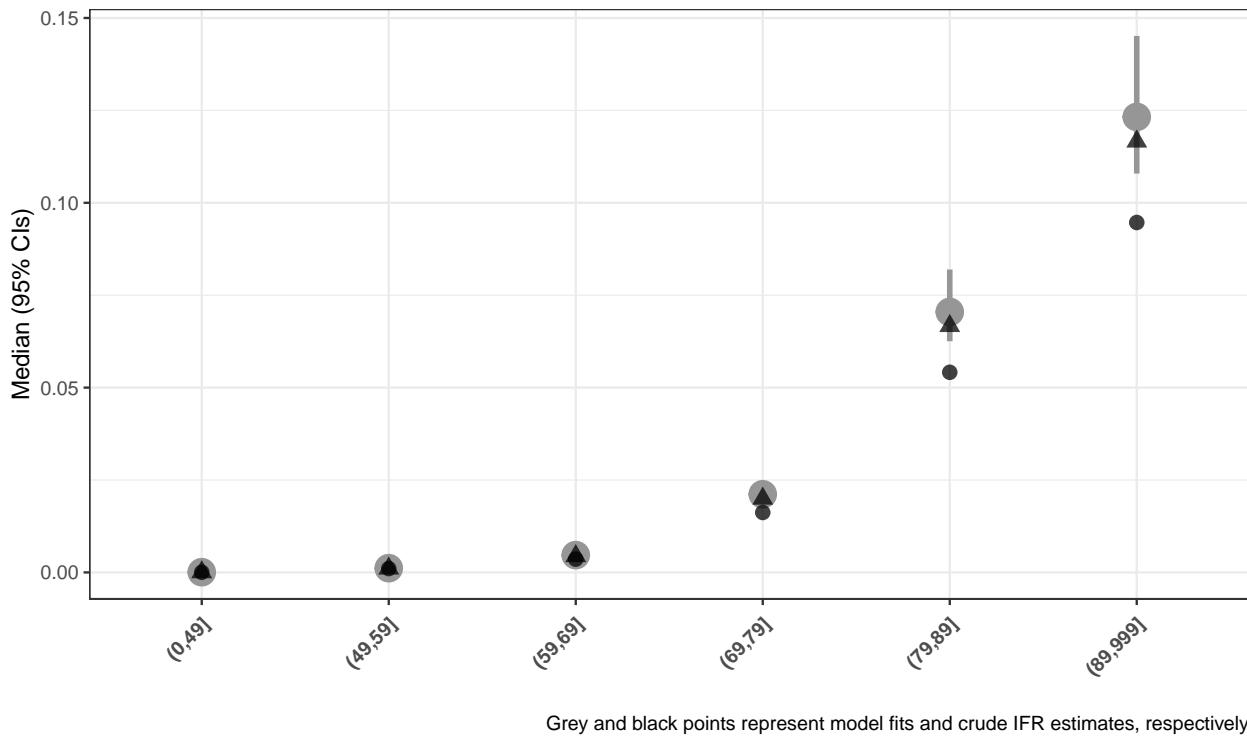
Metropolis Coupling Acceptance Plot



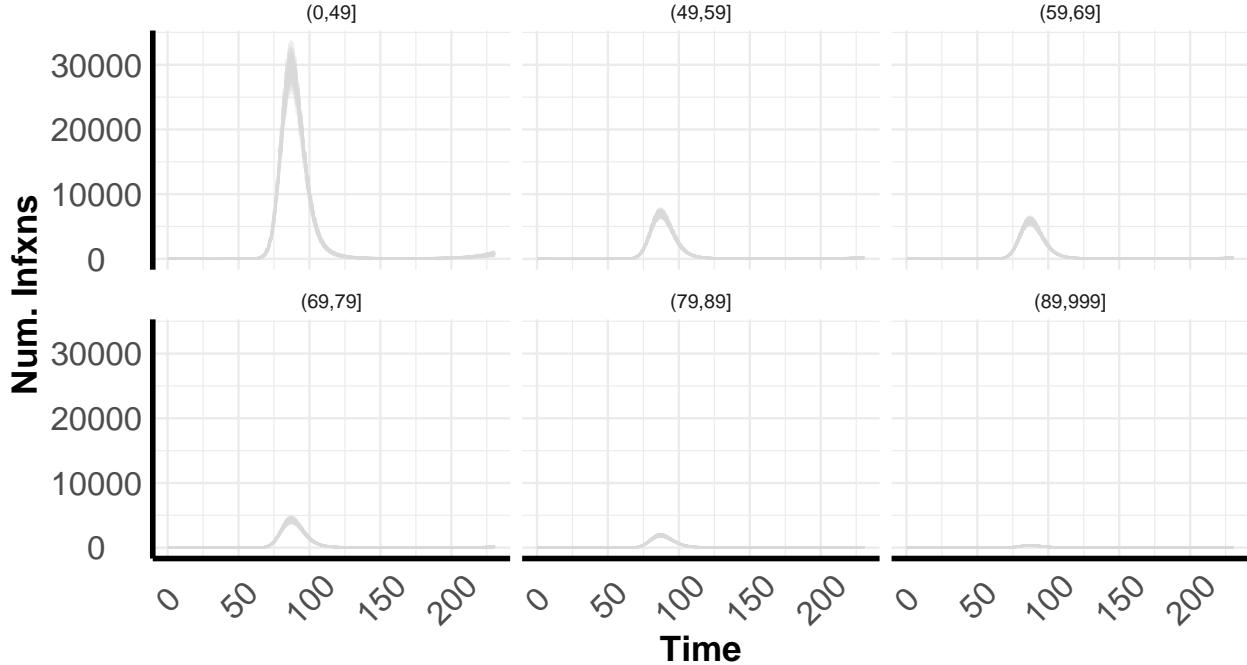
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



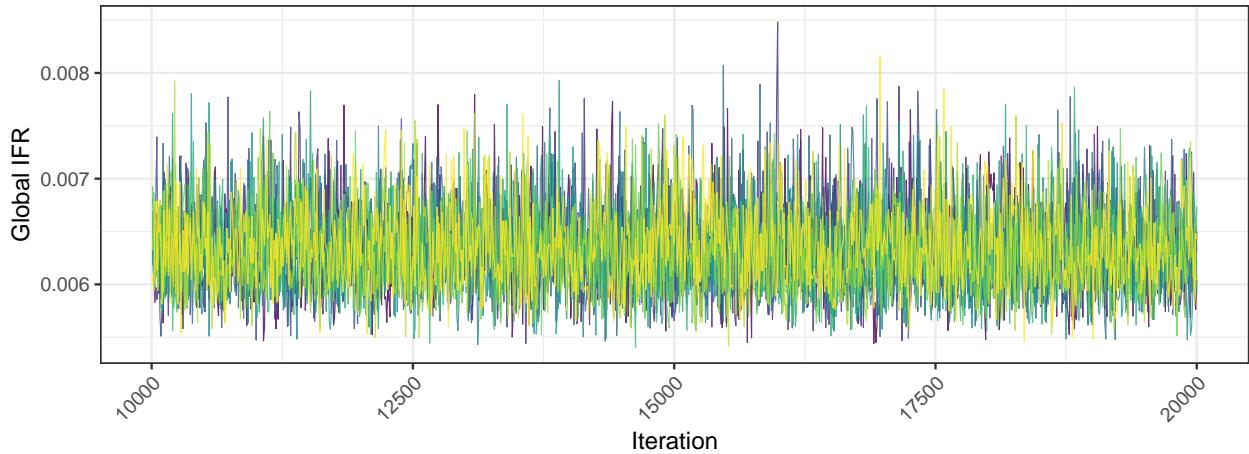
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,49]	ma1	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	8881.353	1.1034	0.2170
(49,59]	ma2	0.0008	0.0009	0.0011	0.0012	0.0014	0.0017	8837.622	1.9389	0.0609
(59,69]	ma3	0.0036	0.0041	0.0047	0.0047	0.0055	0.0064	8058.400	-0.0348	0.3987
(69,79]	ma4	0.0171	0.0187	0.0211	0.0213	0.0246	0.0281	5095.078	0.9139	0.2628
(79,89]	ma5	0.0582	0.0625	0.0705	0.0710	0.0819	0.0989	7006.829	-0.6179	0.3296
(89,999]	ma6	0.0975	0.1079	0.1232	0.1241	0.1452	0.1645	3920.663	-0.2814	0.3835

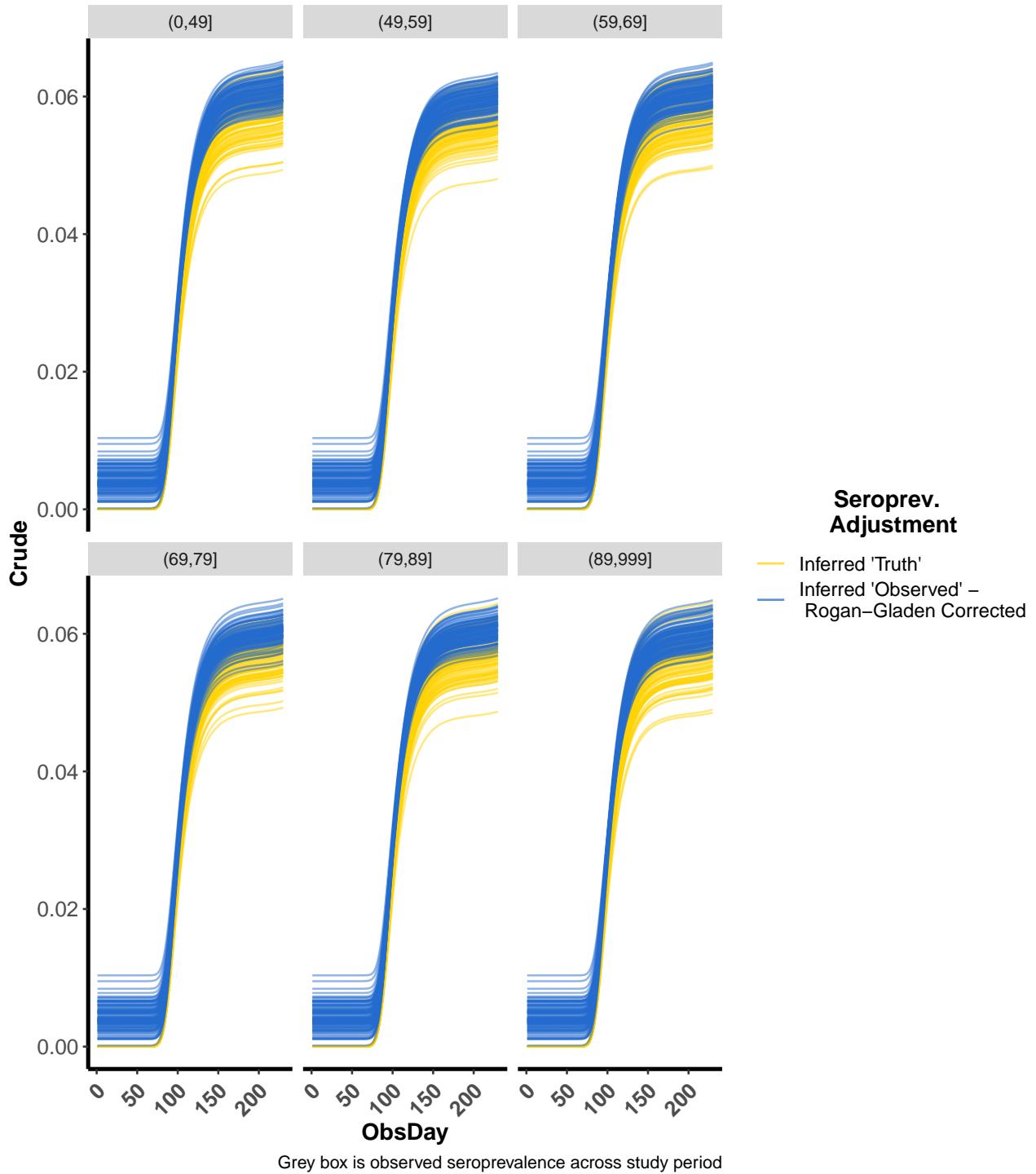
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0052	0.0056	0.0062	0.0063	0.0072	0.0084	6974.555	1.0021	0.2415

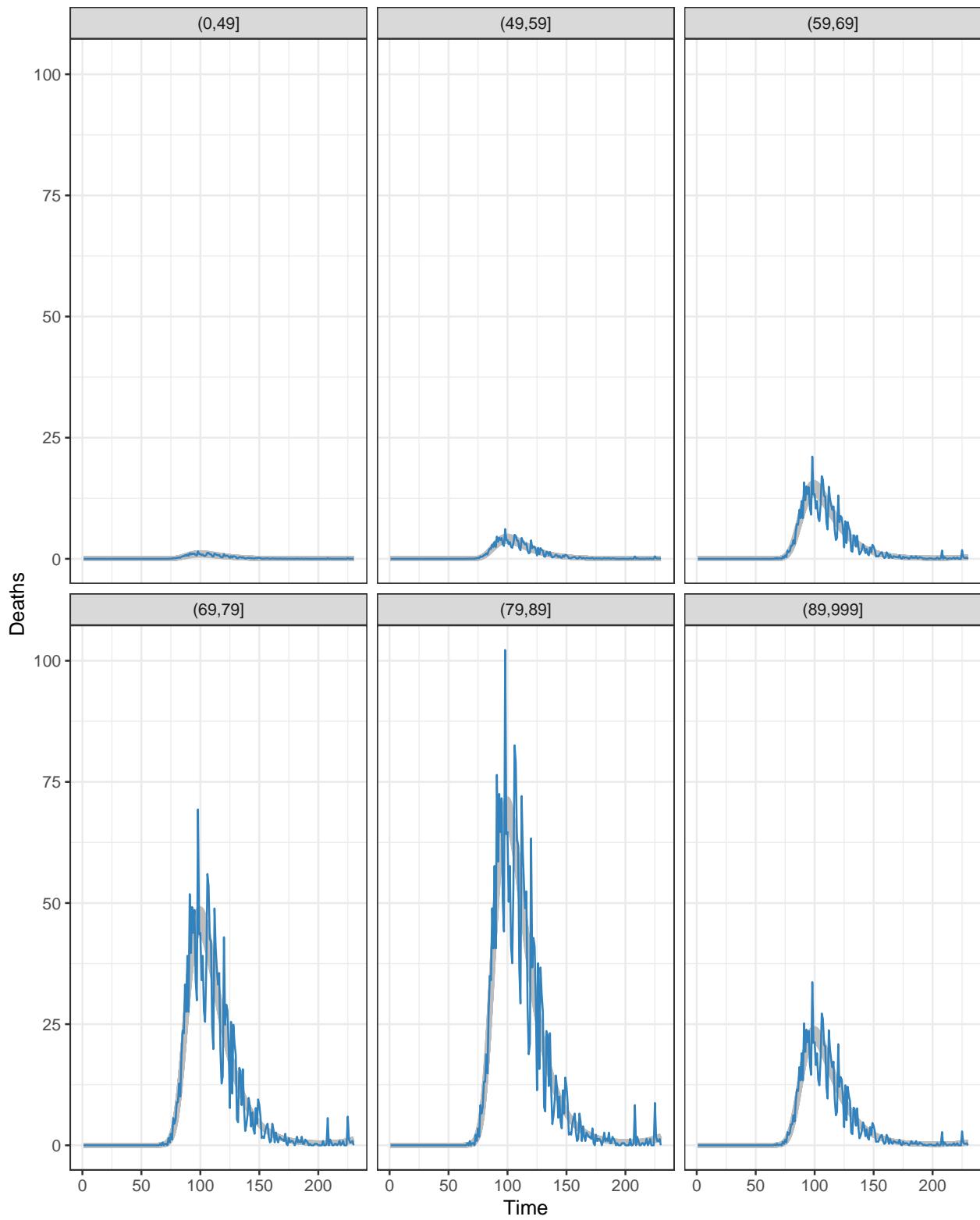
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0053	0.0056	0.0063	0.0063	0.0073	0.0079	723.1522	-1.1054	0.2166
chain2	0.0053	0.0056	0.0062	0.0063	0.0072	0.0083	685.6990	0.3521	0.3750
chain3	0.0053	0.0056	0.0062	0.0063	0.0072	0.0076	672.7098	0.3508	0.3751
chain4	0.0054	0.0057	0.0063	0.0063	0.0072	0.0084	729.6830	-1.2232	0.1888
chain5	0.0052	0.0056	0.0062	0.0063	0.0071	0.0079	651.9958	1.0484	0.2303
chain6	0.0054	0.0056	0.0062	0.0063	0.0072	0.0078	804.8735	1.4819	0.1331
chain7	0.0054	0.0056	0.0062	0.0063	0.0070	0.0079	607.9399	0.4325	0.3633
chain8	0.0055	0.0056	0.0062	0.0063	0.0071	0.0077	502.0309	2.3962	0.0226
chain9	0.0053	0.0056	0.0062	0.0063	0.0071	0.0081	554.9292	0.2796	0.3836
chain10	0.0053	0.0057	0.0063	0.0063	0.0072	0.0081	645.2610	-1.2001	0.1942



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

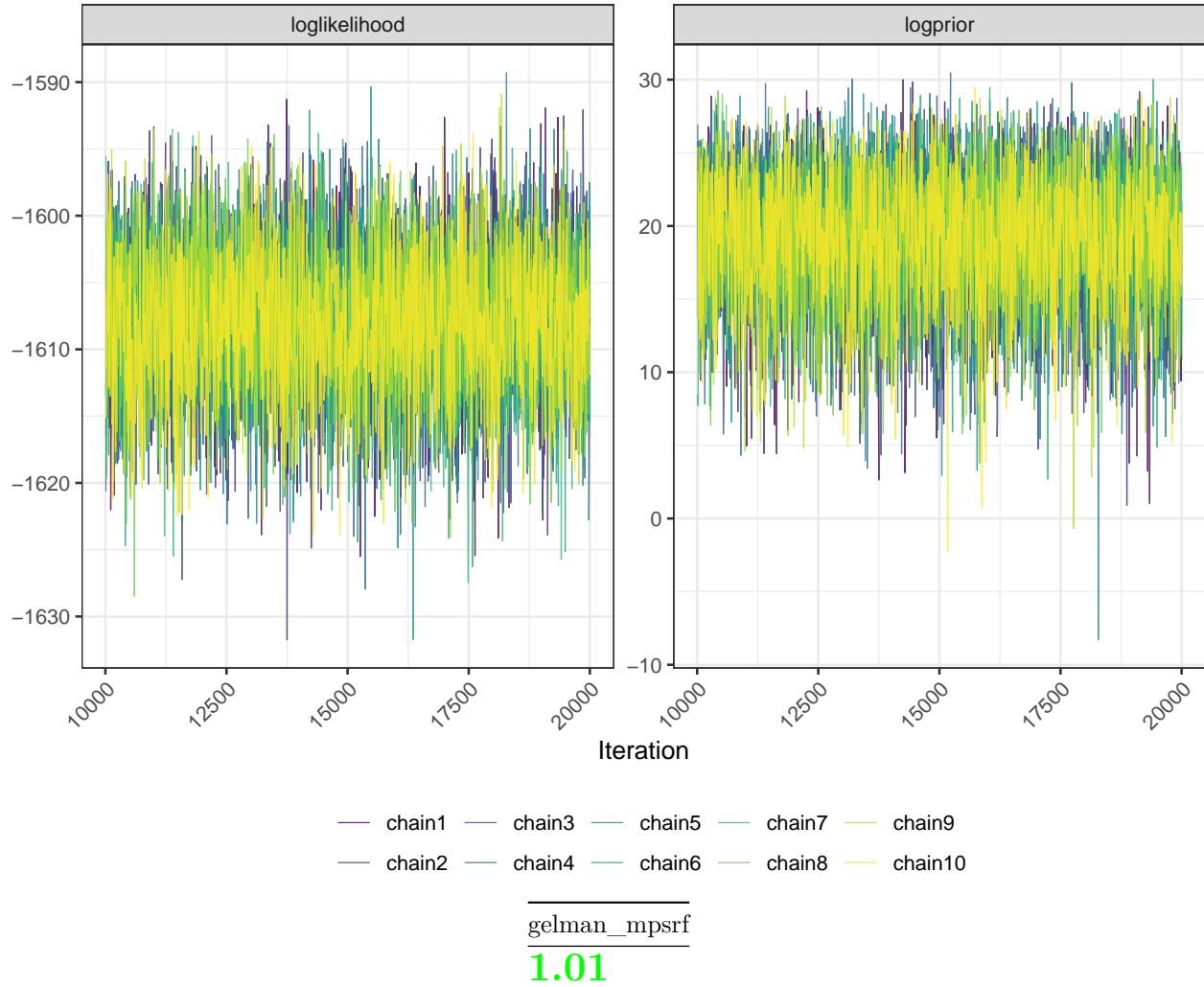
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.2031	1.6698	55.2777	49.5617	66.5038	73.2526	1366.697	-0.4243	0.3646
x2	67.7851	70.6657	75.4249	75.6796	81.8340	94.9380	1753.551	-3.6950	0.0004
x3	95.0235	103.6231	109.3562	109.4384	115.7793	123.6454	1514.679	1.9572	0.0588
x4	214.0009	214.5201	223.0892	222.7494	229.6589	229.9983	1879.488	-0.3259	0.3783
y1	0.0002	0.0801	1.7649	1.9270	4.7113	6.7924	5714.029	-0.1428	0.3949
y2	0.0001	0.0653	1.7512	2.1538	6.2318	8.4677	1343.378	1.3251	0.1658
y3	6.8695	7.9371	9.3566	9.3232	10.5418	10.9573	1402.736	-3.5365	0.0008
y4	5.9196	7.2097	8.2690	8.2340	9.0661	10.3107	1592.232	-1.9625	0.0582
y5	5.6009	6.1035	6.7073	6.7223	7.4216	7.9583	2818.373	1.0988	0.2181
Ne1	0.8721	0.9377	1.0125	1.0129	1.0885	1.1410	8030.497	-1.1501	0.2059
Ne2	0.8555	0.9144	0.9903	0.9902	1.0655	1.1330	9559.900	-2.0498	0.0488
Ne3	0.8647	0.9256	1.0007	1.0012	1.0792	1.1608	9051.220	0.9368	0.2572
Ne4	0.8502	0.9239	1.0009	1.0011	1.0774	1.1631	7571.629	-0.9308	0.2587
Ne5	0.8504	0.9265	1.0007	1.0011	1.0779	1.1373	8170.251	0.4086	0.3670
Ne6	0.8531	0.9241	1.0010	1.0009	1.0769	1.1328	7110.419	0.2554	0.3861

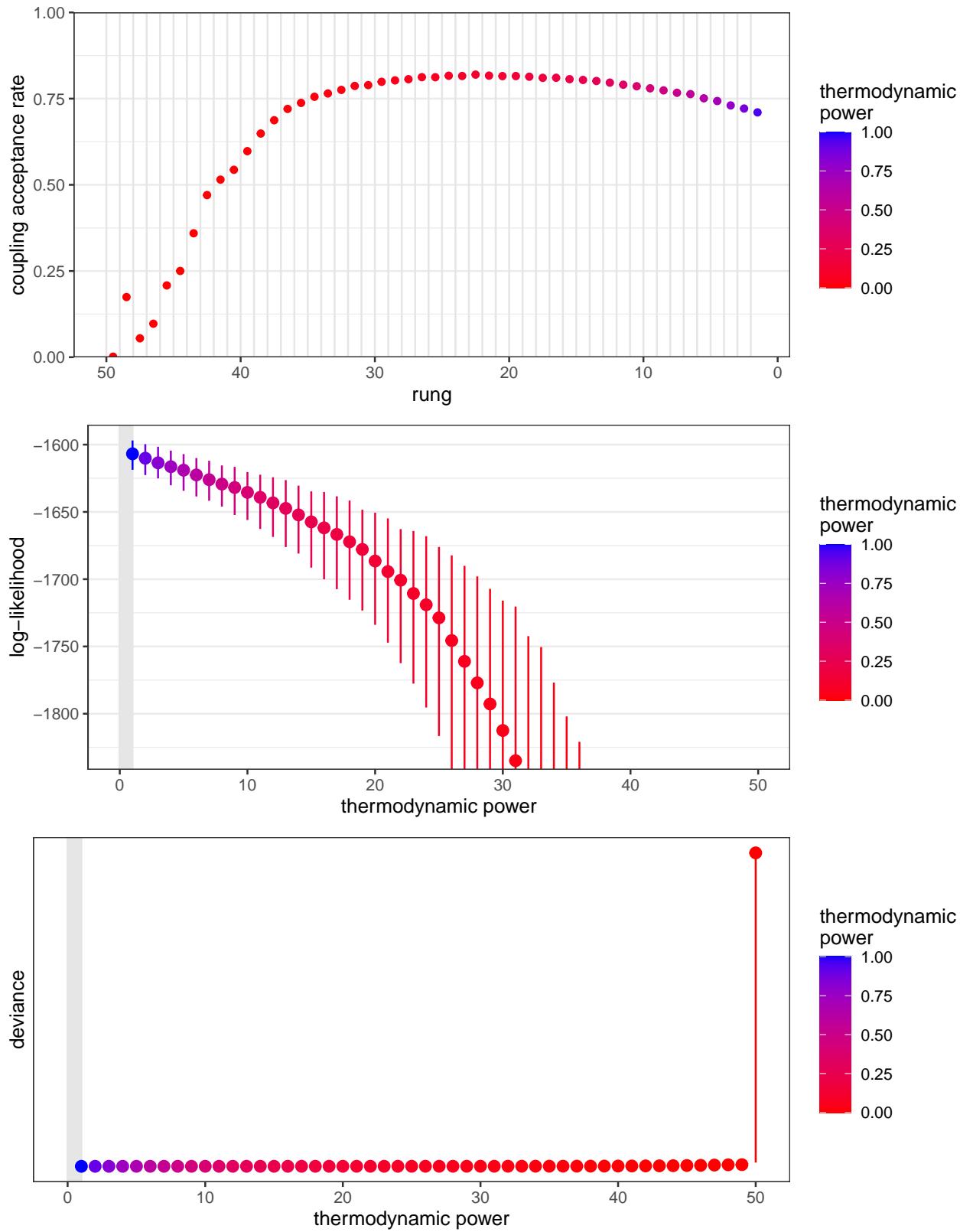
NYS1 with Standard Input

Fit Diagnostics

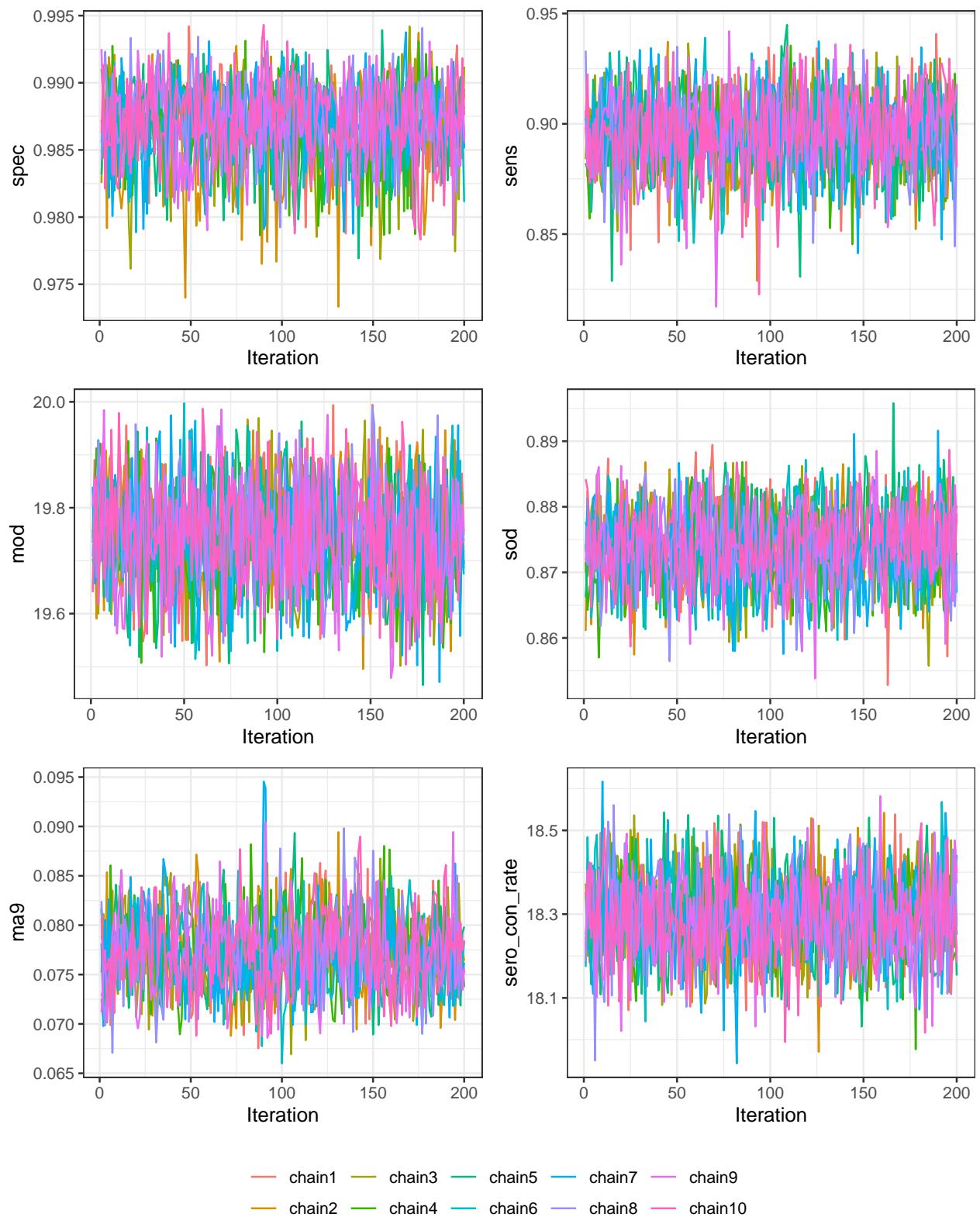
Log Likelihood & Prior Plot



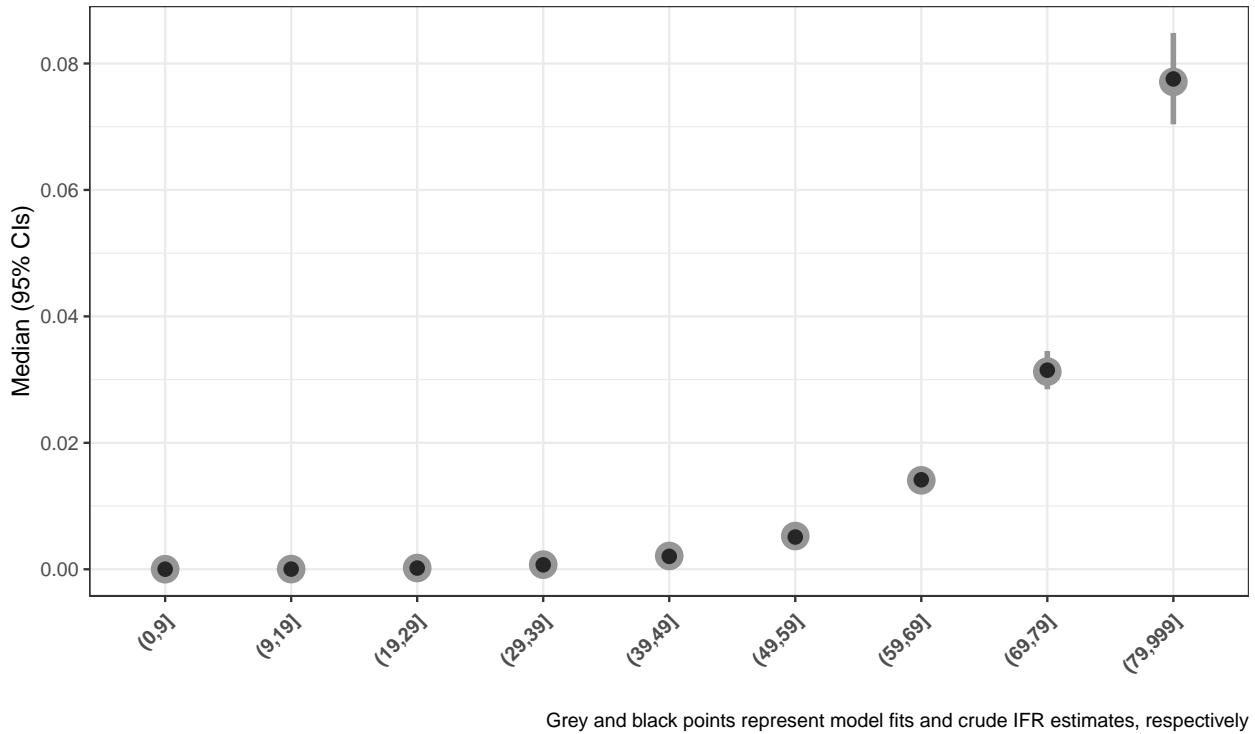
Metropolis Coupling Acceptance Plot



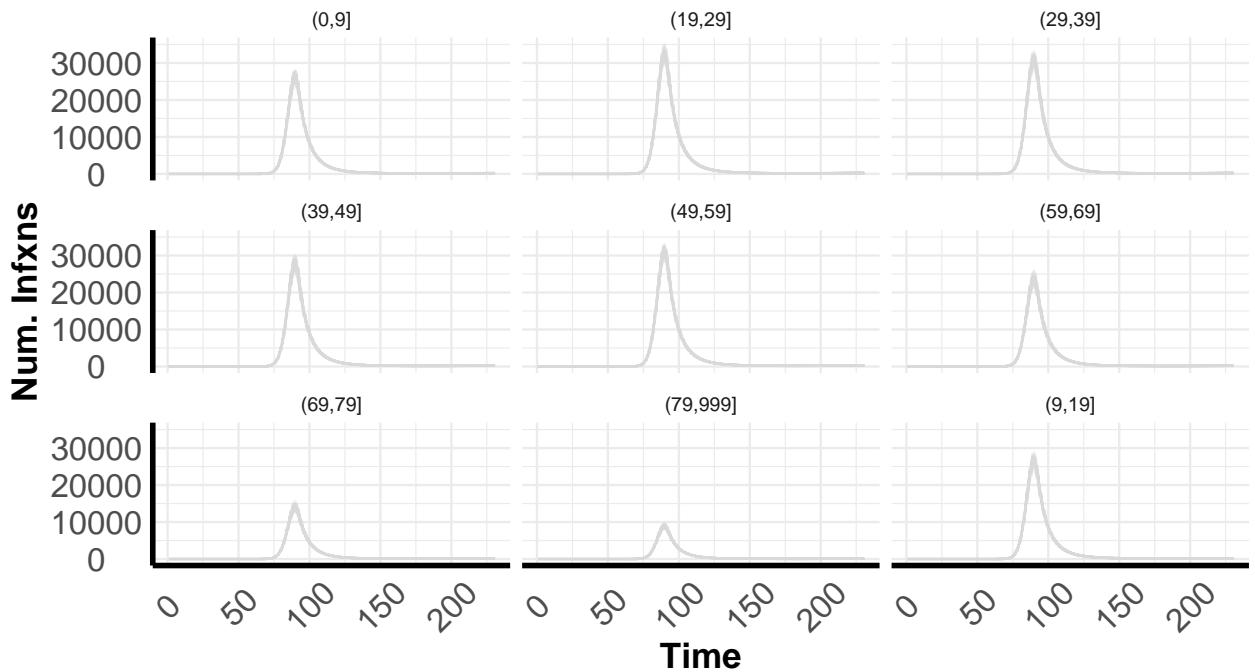
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



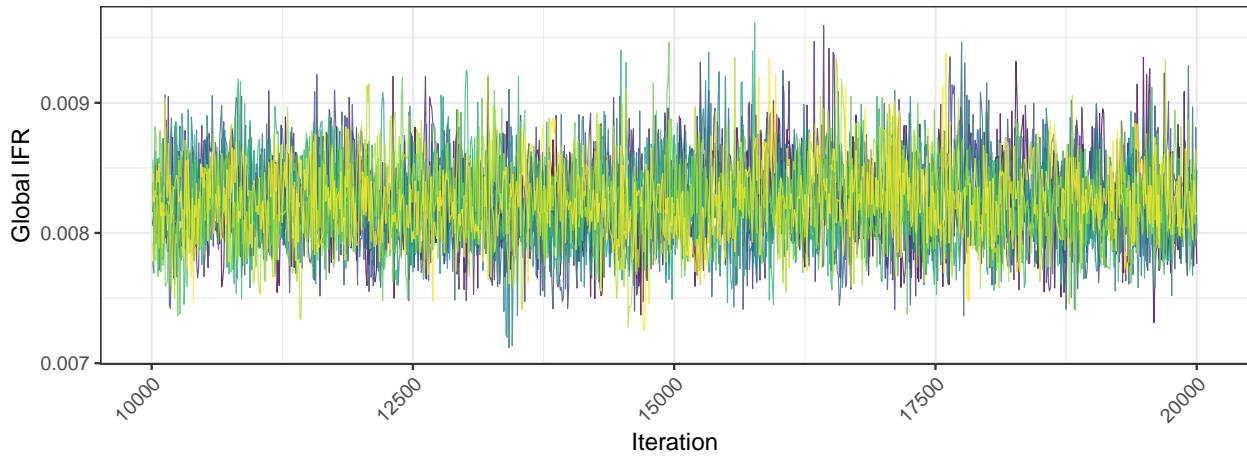
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9398.739	-0.5402	0.3448
(9,19]	ma2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	9365.231	-0.6185	0.3295
(19,29]	ma3	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	8547.798	-0.2057	0.3906
(29,39]	ma4	0.0006	0.0006	0.0007	0.0007	0.0008	0.0009	5798.350	-0.9684	0.2496
(39,49]	ma5	0.0017	0.0019	0.0021	0.0021	0.0023	0.0026	4102.489	-1.4216	0.1452
(49,59]	ma6	0.0045	0.0048	0.0053	0.0053	0.0058	0.0066	3208.673	-0.7235	0.3071
(59,69]	ma7	0.0119	0.0128	0.0141	0.0141	0.0155	0.0168	2909.515	-0.9765	0.2477
(69,79]	ma8	0.0262	0.0285	0.0313	0.0313	0.0345	0.0391	2402.486	-0.6235	0.3285
(79,999]	ma9	0.0655	0.0704	0.0771	0.0772	0.0848	0.0945	1555.955	0.2159	0.3898

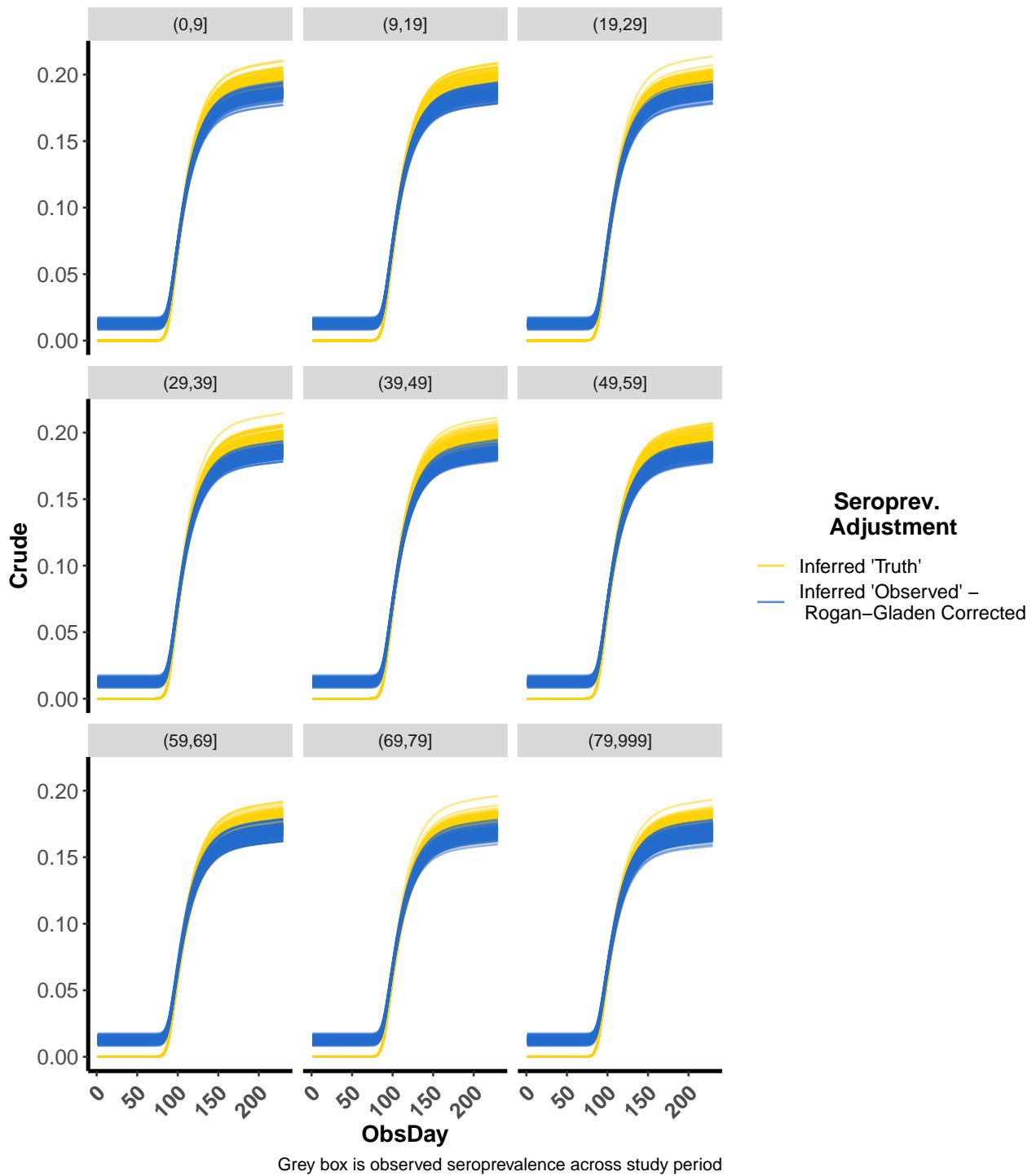
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0068	0.0072	0.0077	0.0077	0.0083	0.0089	3789.509	-0.9517	0.2536

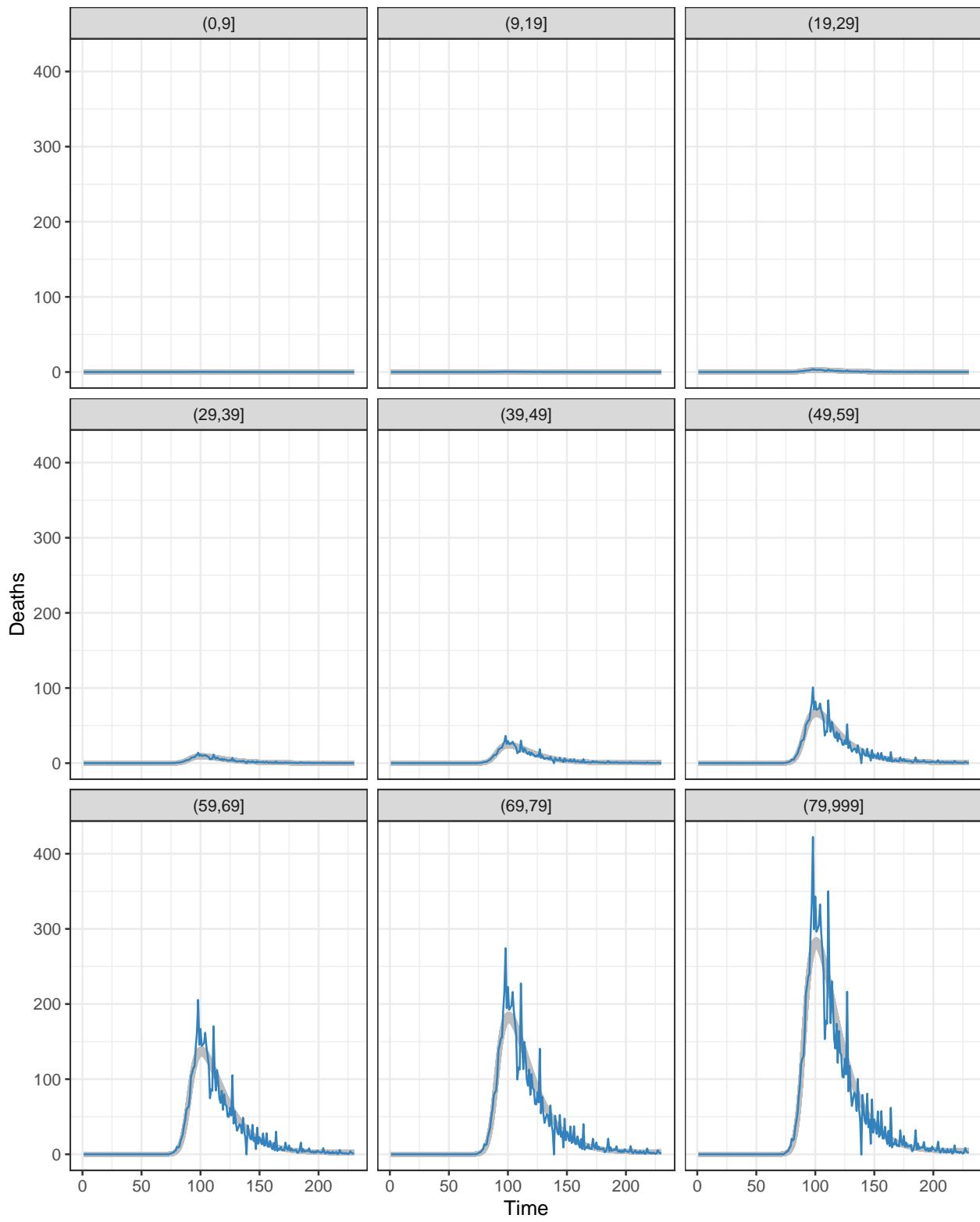
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0069	0.0072	0.0077	0.0077	0.0083	0.0088	283.0706	-1.4217	0.1452
chain2	0.0070	0.0072	0.0077	0.0077	0.0083	0.0089	159.8671	-0.3728	0.3722
chain3	0.0070	0.0072	0.0077	0.0077	0.0083	0.0087	209.6136	-0.2222	0.3892
chain4	0.0068	0.0073	0.0077	0.0077	0.0083	0.0088	236.5014	1.0788	0.2229
chain5	0.0068	0.0072	0.0077	0.0077	0.0082	0.0086	239.6519	-0.8402	0.2803
chain6	0.0070	0.0073	0.0077	0.0077	0.0082	0.0087	262.5243	0.4045	0.3676
chain7	0.0069	0.0072	0.0077	0.0077	0.0083	0.0088	374.1675	3.0285	0.0041
chain8	0.0069	0.0073	0.0077	0.0077	0.0083	0.0088	305.9894	-2.3204	0.0270
chain9	0.0069	0.0072	0.0077	0.0077	0.0083	0.0087	191.8329	-1.4764	0.1341
chain10	0.0068	0.0072	0.0077	0.0077	0.0082	0.0086	361.7899	0.6017	0.3329



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

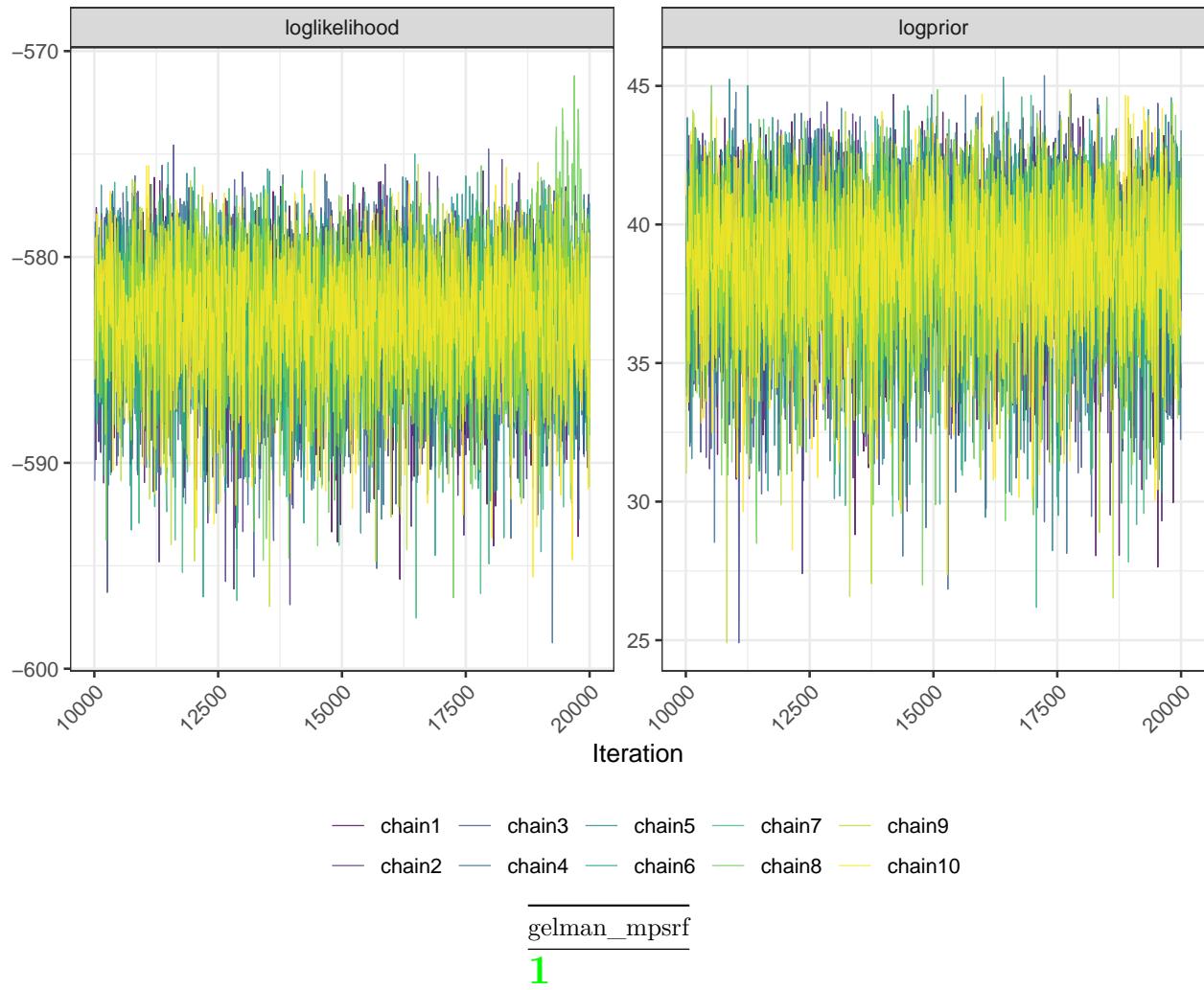
Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.1190	3.0694	60.2695	58.1069	69.1937	76.5570	955.4585	0.2553	0.3862
x2	87.4185	89.4085	91.3305	91.2529	92.5862	93.3645	576.1101	0.9481	0.2545
x3	92.1521	92.9798	94.1747	94.2366	95.7401	97.1243	771.8904	0.9523	0.2535
x4	214.0005	214.0275	214.8094	215.2671	219.4138	228.9152	1968.1862	-3.8003	0.0003
y1	0.0001	0.0681	1.4830	1.6700	4.4611	6.1400	4951.4492	-2.3495	0.0252
y2	0.0009	0.1178	2.5070	2.7206	6.5401	9.2145	502.0811	0.2753	0.3841
y3	12.0016	12.1226	12.2440	12.2398	12.3360	12.4149	755.9854	-0.3787	0.3713
y4	11.5257	11.7196	11.9194	11.9123	12.0611	12.1601	749.5786	-0.0827	0.3976
y5	7.0518	7.1776	7.3506	7.3498	7.5137	7.7072	6174.9315	-0.4897	0.3539
Ne1	0.9007	0.9730	1.0322	1.0325	1.0924	1.1676	8416.9290	-1.8301	0.0748
Ne2	0.9066	0.9729	1.0323	1.0325	1.0944	1.1457	8324.5860	-0.6627	0.3203
Ne3	0.9233	0.9730	1.0320	1.0323	1.0937	1.1550	5993.0100	-0.4826	0.3551
Ne4	0.9214	0.9731	1.0321	1.0324	1.0938	1.1506	8079.0708	0.3696	0.3726
Ne5	0.9164	0.9732	1.0320	1.0326	1.0942	1.1576	7469.3387	1.4766	0.1341
Ne6	0.9228	0.9746	1.0326	1.0327	1.0935	1.1397	6648.0508	0.4671	0.3577
Ne7	0.8038	0.8701	0.9344	0.9342	0.9997	1.0620	4788.0057	1.0372	0.2330
Ne8	0.8132	0.8698	0.9348	0.9349	1.0015	1.0632	4215.0031	0.2974	0.3817
Ne9	0.8171	0.8697	0.9336	0.9337	0.9999	1.0694	2737.0267	-0.8099	0.2874

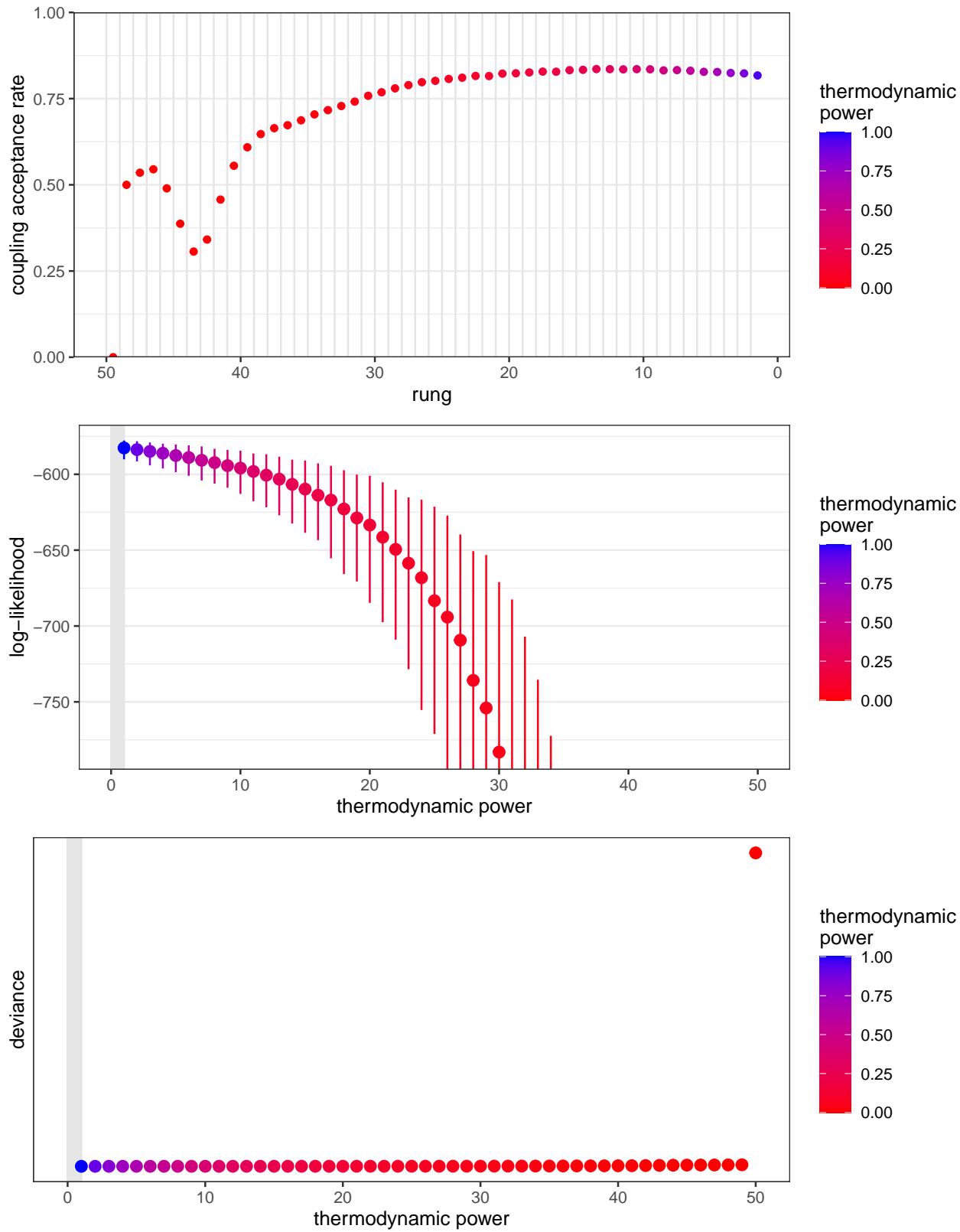
SWE1 with Standard Input

Fit Diagnostics

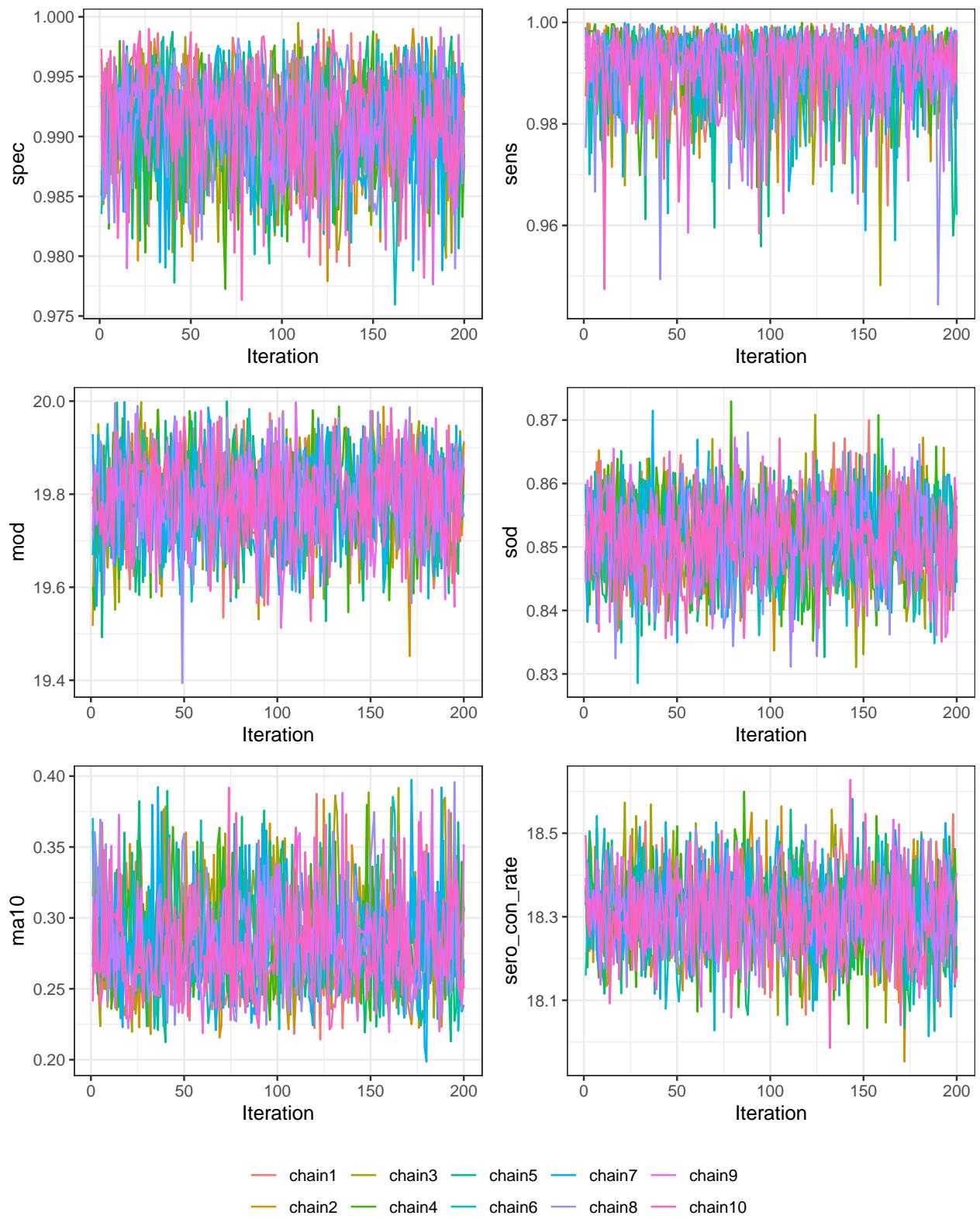
Log Likelihood & Prior Plot



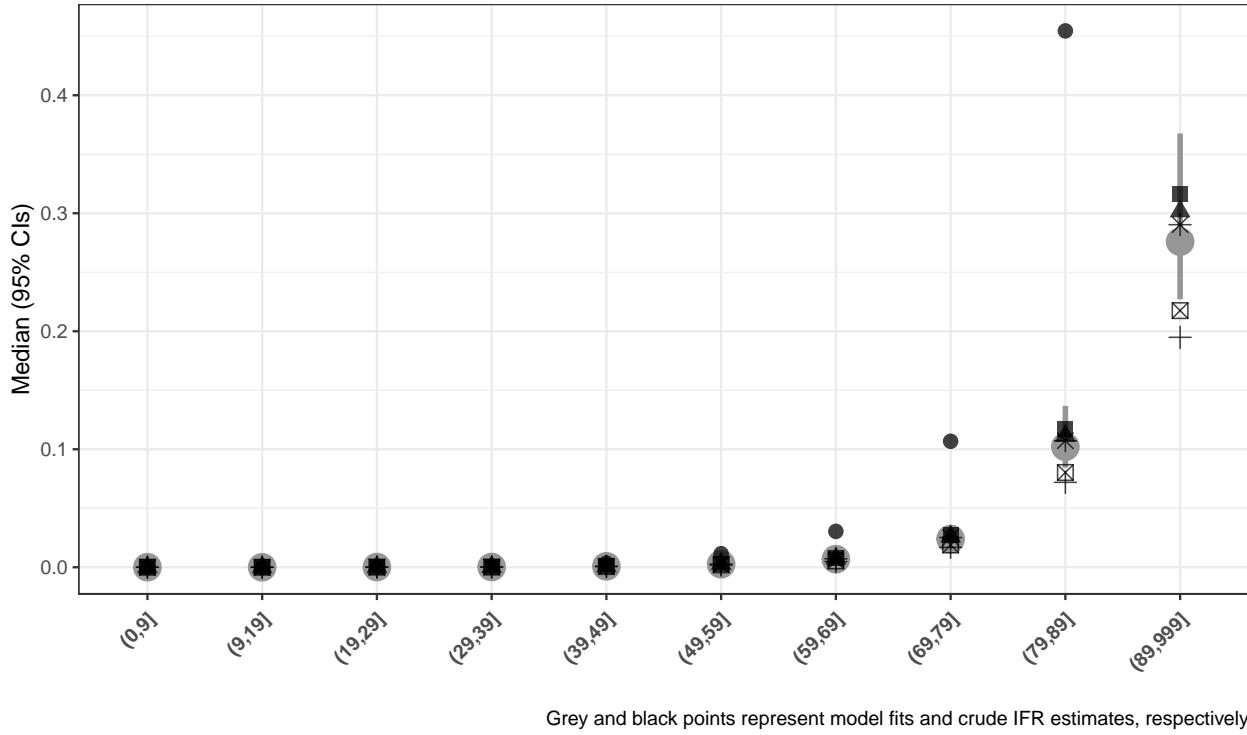
Metropolis Coupling Acceptance Plot



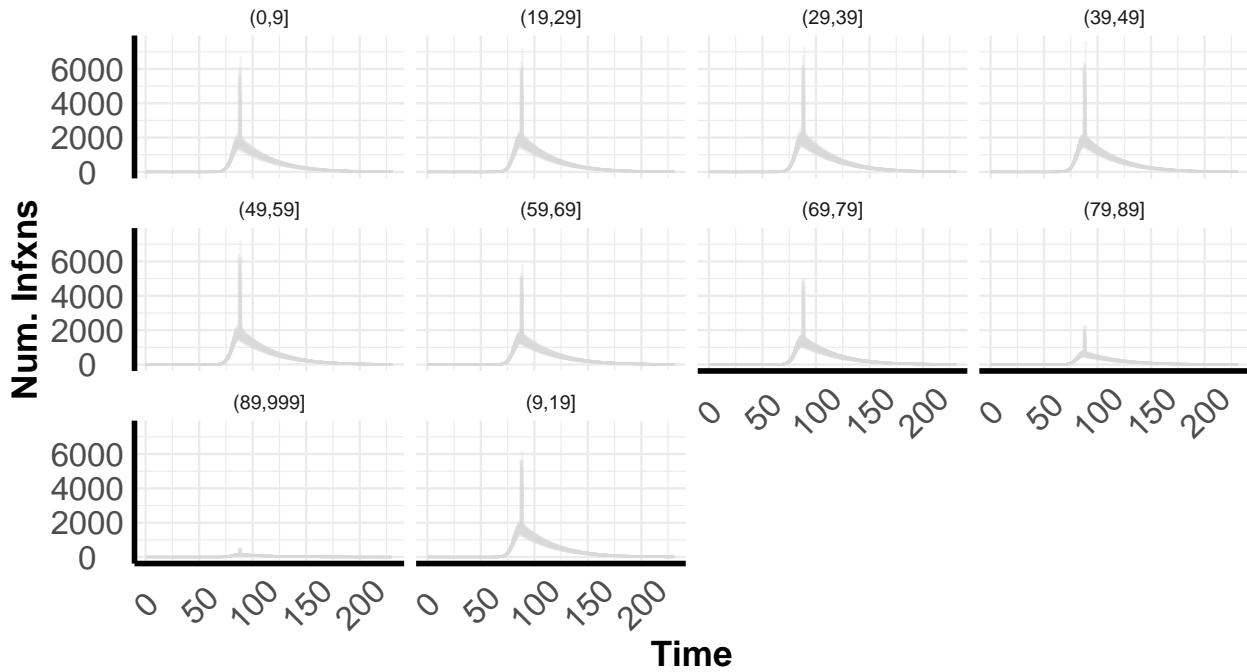
Serological Diagnostics



IFRs & Incidence Curve



Posterior Draws of the Infection Curve



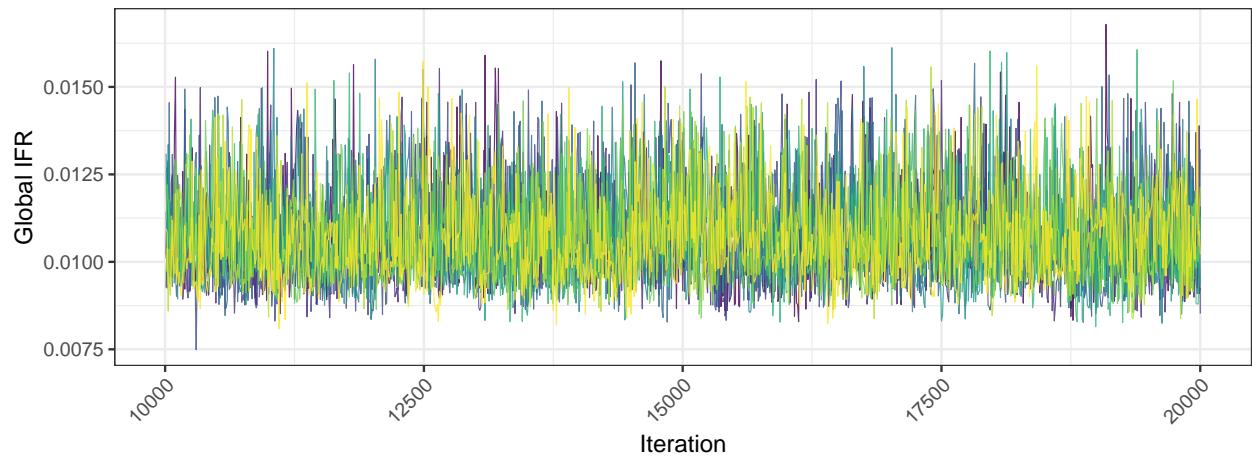
Strata IFR

strata	param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
(0,9]	ma1	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002	9393.953	-0.8315	0.2823
(9,19]	ma2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9059.643	0.1554	0.3942
(19,29]	ma3	0.0000	0.0001	0.0002	0.0002	0.0003	0.0004	6259.139	-0.7778	0.2948
(29,39]	ma4	0.0000	0.0001	0.0002	0.0002	0.0004	0.0007	7119.511	-0.9575	0.2522
(39,49]	ma5	0.0004	0.0005	0.0008	0.0008	0.0011	0.0017	4409.965	-0.1548	0.3942
(49,59]	ma6	0.0016	0.0020	0.0026	0.0026	0.0036	0.0048	3235.892	-0.1609	0.3938
(59,69]	ma7	0.0046	0.0055	0.0068	0.0070	0.0093	0.0119	2774.881	-0.1289	0.3956
(69,79]	ma8	0.0175	0.0198	0.0240	0.0245	0.0322	0.0404	3202.993	-0.9607	0.2515
(79,89]	ma9	0.0712	0.0844	0.1021	0.1044	0.1367	0.1772	2072.439	-0.1988	0.3911
(89,999]	ma10	0.1956	0.2271	0.2759	0.2823	0.3676	0.3999	2090.713	-0.2364	0.3880

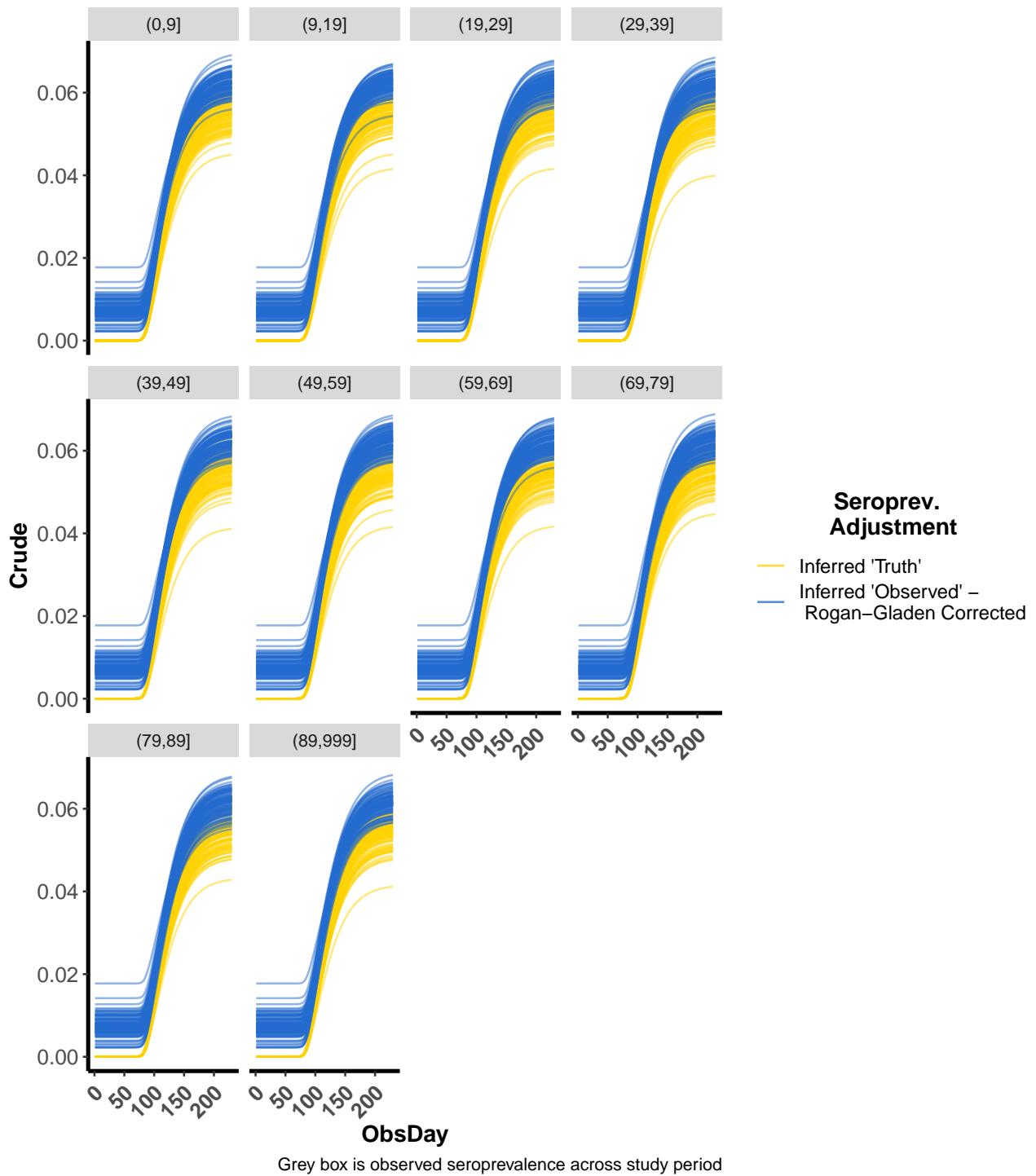
Overall IFR

min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
0.0076	0.0089	0.0105	0.0107	0.0139	0.0165	4384.493	-1.9766	0.0566

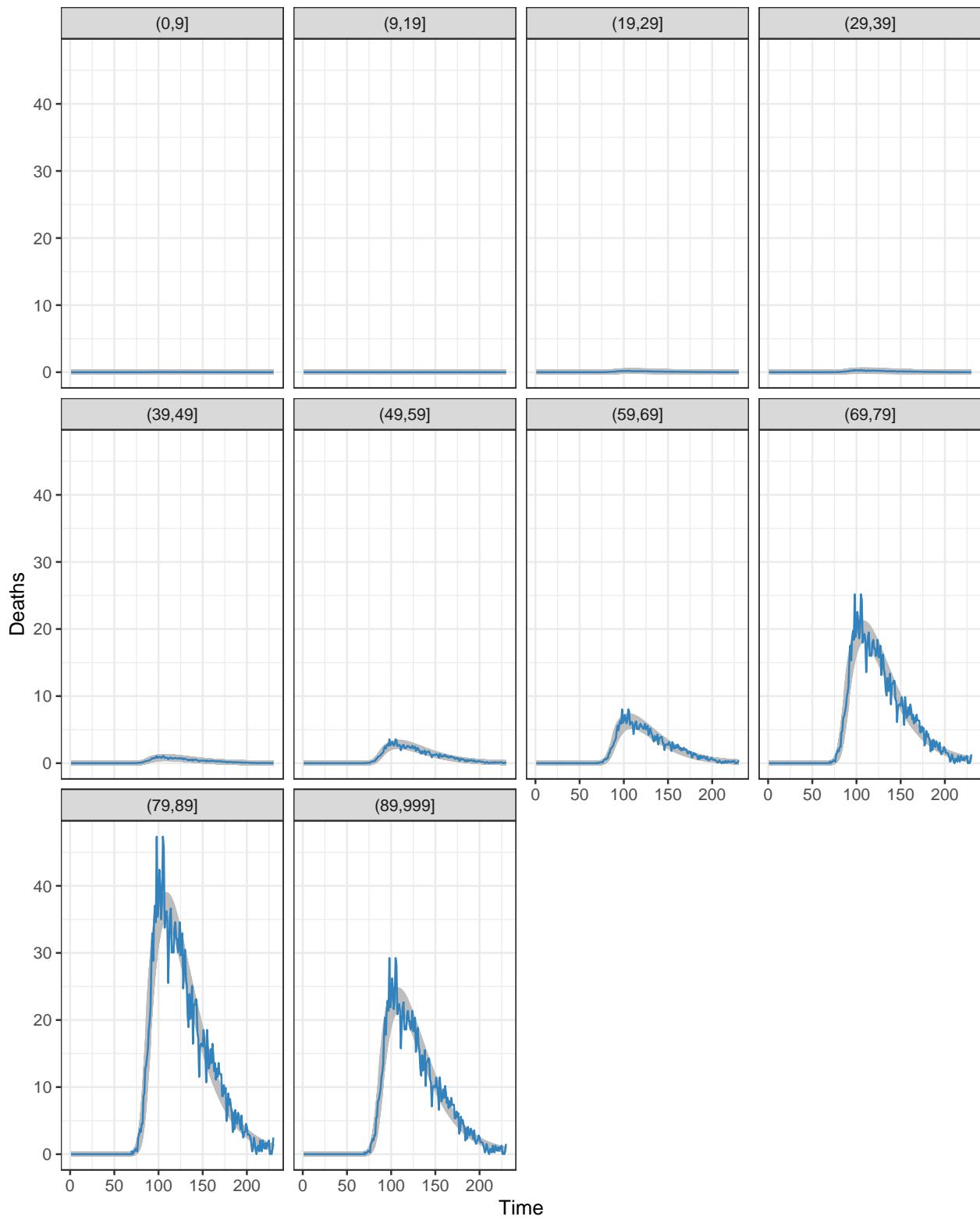
chain	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
chain1	0.0084	0.0089	0.0103	0.0107	0.0142	0.0165	532.7870	-0.7409	0.3032
chain2	0.0082	0.0088	0.0103	0.0106	0.0137	0.0155	677.8418	1.1820	0.1984
chain3	0.0076	0.0088	0.0105	0.0108	0.0142	0.0157	188.7620	-5.1352	0.0000
chain4	0.0083	0.0090	0.0106	0.0108	0.0140	0.0162	508.7566	-0.5405	0.3447
chain5	0.0084	0.0089	0.0104	0.0106	0.0136	0.0164	149.0380	-0.0347	0.3987
chain6	0.0082	0.0089	0.0105	0.0106	0.0135	0.0165	656.2738	0.4686	0.3575
chain7	0.0081	0.0089	0.0106	0.0108	0.0139	0.0159	318.4396	-0.2500	0.3867
chain8	0.0085	0.0090	0.0104	0.0107	0.0137	0.0151	251.6530	1.5299	0.1238
chain9	0.0082	0.0089	0.0105	0.0107	0.0139	0.0160	501.9619	-1.0538	0.2290
chain10	0.0081	0.0089	0.0104	0.0107	0.0139	0.0158	558.3654	-0.7796	0.2944



Seroprevalence Observed vs. Inferred True Prev



Death Posterior Predictive Check



Grey Lines are Draws from Posterior, Blue Line is Observed Data (from JHU CSSE COVID-19 Data)

Additional Parameters

param	min	LCI	median	mean	UCI	max	ESS	GewekeZ	GewekeP
x1	1.0911	2.6017	58.3609	54.5386	69.0802	78.2412	1576.019	-0.3803	0.3711
x2	82.4755	84.0924	85.6032	85.7321	87.9225	90.1601	4632.943	-0.1126	0.3964
x3	83.4793	86.0772	88.8731	88.9385	92.1637	96.2495	3800.341	0.0117	0.3989
x4	214.0007	214.4413	222.6587	222.4038	229.6667	229.9984	1637.431	-0.9193	0.2614
y1	0.0002	0.0612	1.3670	1.5550	4.1756	6.1262	4552.588	0.9717	0.2488
y2	0.0000	0.0691	1.6125	1.9409	5.4715	8.3598	2344.433	-0.2056	0.3906
y3	9.0836	9.2773	9.5691	9.5526	9.7448	9.8661	2147.125	0.3969	0.3687
y4	9.0654	9.2566	9.5452	9.5290	9.7180	9.8411	2126.620	0.3251	0.3784
y5	3.3131	4.0154	4.6200	4.6159	5.1583	5.5668	3137.895	0.6391	0.3252
Ne1	0.8351	0.9088	1.0000	0.9997	1.0886	1.1783	10000.000	-1.0110	0.2393
Ne10	0.8090	0.9082	0.9997	1.0002	1.0916	1.1680	4917.395	-0.0310	0.3988
Ne2	0.8127	0.9085	1.0002	1.0005	1.0919	1.1758	9817.484	-0.7716	0.2962
Ne3	0.8443	0.9091	1.0004	1.0001	1.0902	1.1796	10000.000	0.3598	0.3739
Ne4	0.8177	0.9086	0.9999	1.0001	1.0927	1.1894	9463.870	1.7979	0.0793
Ne5	0.8395	0.9110	1.0005	1.0008	1.0926	1.1771	9031.064	-0.9312	0.2586
Ne6	0.8038	0.9088	1.0002	1.0001	1.0912	1.1716	9371.530	-1.3191	0.1671
Ne7	0.8219	0.9075	0.9997	0.9997	1.0919	1.1730	9330.340	-0.3673	0.3729
Ne8	0.8362	0.9090	0.9998	0.9998	1.0893	1.1844	7992.179	2.0753	0.0463
Ne9	0.8227	0.9077	0.9998	0.9995	1.0915	1.1938	5884.290	-0.4264	0.3643