

		Jax-cosmo + NUTS				Jax-cosmo + EMCEE				Jax-cosmo + NS				CCL + EMCEE		Jax-cosmo + Barker MH			
	$\Theta$	$\hat{R}_{\text{emu}}$	$\hat{R}_{\text{EH}}$	$N_{\text{eff, emu}}$	$N_{\text{eff, EH}}$	$\hat{R}_{\text{emu}}$	$\hat{R}_{\text{EH}}$	$N_{\text{eff, emu}}$	$N_{\text{eff, EH}}$	$\hat{R}_{\text{emu}}$	$\hat{R}_{\text{EH}}$	$N_{\text{eff, emu}}$	$N_{\text{eff, EH}}$	$\hat{R}$	$N_{\text{eff}}$	$\hat{R}_{\text{emu}}$	$\hat{R}_{\text{EH}}$	$N_{\text{eff, emu}}$	$N_{\text{eff, EH}}$
Cosmology	$\sigma_8$	1.03	1.00	100.87	226.46	1.01	1.01	26643.62	23122.48					1.01	19805.50	1.49	1.35	6.48	8.87
	$\Omega_c$	1.04	1.00	98.96	231.33	1.00	1.01	27577.44	24662.87					1.01	14532.90	1.21	1.01	10.78	41.67
	$\Omega_b$	1.02	1.01	119.01	215.91	1.00	1.00	25359.79	27730.30					1.00	30962.90	1.03	1.04	11.90	11.34
	$h$	1.03	1.01	154.39	216.93	1.01	1.01	28905.07	26988.88					1.00	28334.30	1.43	1.61	8.10	8.11
	$n_s$	1.02	1.00	162.39	224.01	1.00	1.00	28725.95	24831.30					1.00	27392.04	1.13	1.05	8.99	13.06
Multiplicative	$m_1$	1.00	1.00	26899.59	28466.05	1.00	1.00	29733.33	27025.16					1.00	30976.37	1.00	1.00	3463.49	2100.02
	$m_2$	1.00	1.00	30162.91	31501.89	1.01	1.00	30498.90	20029.92					1.00	29987.82	1.00	1.00	3188.36	2086.72
	$m_3$	1.00	1.00	22418.98	14947.42	1.02	1.00	28544.70	29542.97					1.00	28032.17	1.01	1.00	2053.72	1453.72
	$m_4$	1.00	1.00	23150.80	19668.46	1.02	1.00	28117.92	29991.51					1.00	30023.22	1.01	1.00	2462.37	1685.12
Shifts (WL)	$\delta_\gamma^{(1)}$	1.00	1.00	11641.79	14501.72	1.01	1.00	30254.03	28360.70					1.00	27762.59	1.02	1.01	885.64	807.58
	$\delta_\gamma^{(2)}$	1.00	1.00	26897.94	28750.67	1.02	1.01	26809.42	20617.51					1.00	28058.48	1.00	1.00	10863.74	7078.01
	$\delta_\gamma^{(3)}$	1.00	1.00	22043.15	20569.63	1.00	1.00	27572.08	27945.59					1.00	30458.54	1.01	1.02	2439.80	1182.63
	$\delta_\gamma^{(4)}$	1.00	1.00	20535.00	14632.33	1.00	1.00	31715.25	30385.49					1.00	28910.44	1.01	1.02	1491.92	859.00
IA	$A_{\text{IA}}$	1.00	1.00	929.52	2104.89	1.01	1.01	25075.28	24416.51					1.00	24353.05	1.24	1.25	9.02	7.64
	$\eta$	1.00	1.01	326.75	338.89	1.00	1.00	31347.98	28231.86					1.00	26321.44	2.45	2.15	5.24	5.36
Bias	$b_1$	1.02	1.00	167.24	466.70	1.00	1.00	27075.28	21016.71					1.00	22206.50	1.13	1.06	32.48	39.49
	$b_2$	1.02	1.00	145.47	379.87	1.01	1.01	27275.00	18163.87					1.01	18339.23	1.32	1.29	10.53	14.39
	$b_3$	1.02	1.00	151.85	405.45	1.02	1.01	23209.75	24325.27					1.01	19986.38	1.28	1.21	9.77	16.99
	$b_4$	1.02	1.00	149.39	426.17	1.01	1.01	27189.63	24430.25					1.01	17597.54	1.30	1.23	10.52	10.94
	$b_5$	1.01	1.00	167.87	469.73	1.02	1.01	24167.24	22575.16					1.00	18870.94	1.30	1.33	10.42	10.85
Shifts (GC)	$\delta_g^{(1)}$	1.00	1.00	27164.49	28204.16	1.01	1.00	30043.51	29989.68					1.00	29401.92	1.00	1.00	1578.74	1672.30
	$\delta_g^{(2)}$	1.00	1.00	30664.71	30095.51	1.01	1.00	30967.70	29218.06					1.01	27575.15	1.00	1.00	3100.59	2746.75
	$\delta_g^{(3)}$	1.00	1.00	27771.71	29376.60	1.00	1.00	29050.33	28852.30					1.00	28726.68	1.00	1.00	6386.17	3542.15
	$\delta_g^{(4)}$	1.00	1.00	28329.21	28084.89	1.00	1.00	31404.21	30403.77					1.00	30375.75	1.00	1.00	3877.96	3095.35
	$\delta_g^{(5)}$	1.00	1.00	26172.76	28371.17	1.01	1.00	31069.95	22340.16					1.00	30034.18	1.00	1.00	5039.44	5183.86

Table 1: Sampler diagnostics - NUTS ( $N_{\text{samples}} = 15000$ ,  $\epsilon = 0.1$ ,  $N_{\text{step}} = 31$ , time  $\sim 20$  hours,  $N_{\text{steps, emu}} = [372\,793, 403\,357]$ ,  $N_{\text{steps, EH}} = [383\,467, 401\,015]$ ), EMCEE ( $N_{\text{samples}} = 10000$ ,  $N_{\text{walkers}} = 50$ ,  $\epsilon = 10^{-4}$ , time  $\sim 7$  hours 15 minutes), Barker ( $N_{\text{samples}} = 150000$ ,  $N_{\text{walkers}} = 1000$ , time  $\sim 6$  hours 45 minutes), CCL ( $N_{\text{samples}} = 10000$ ,  $N_{\text{walkers}} = 50$ ,  $\epsilon = 10^{-4}$ , time  $\sim 36$  hours)

		Jax-cosmo + NUTS				Jax-cosmo + EMCEE				Jax-cosmo + NS				CCL + EMCEE		Jax-cosmo + Barker MH			
	$\Theta$	$\mu_{\text{emu}}$	$\sigma_{\text{emu}}$	$\mu_{\text{EH}}$	$\sigma_{\text{EH}}$	$\mu_{\text{emu}}$	$\sigma_{\text{emu}}$	$\mu_{\text{EH}}$	$\sigma_{\text{EH}}$	$\mu_{\text{emu}}$	$\sigma_{\text{emu}}$	$\mu_{\text{EH}}$	$\sigma_{\text{EH}}$	$\mu$	$\sigma$	$\mu_{\text{emu}}$	$\sigma_{\text{emu}}$	$\mu_{\text{EH}}$	$\sigma_{\text{EH}}$
Cosmology	$\sigma_8$	0.841	0.065	0.832	0.063	0.845	0.063	0.830	0.063					0.816	0.062	0.819	0.030	0.799	0.029
	$\Omega_c$	0.229	0.025	0.227	0.025	0.228	0.023	0.228	0.025					0.236	0.026	0.238	0.013	0.240	0.011
	$\Omega_b$	0.043	0.007	0.045	0.007	0.043	0.007	0.045	0.007					0.046	0.007	0.045	0.003	0.047	0.003
	$h$	0.717	0.051	0.714	0.049	0.720	0.050	0.712	0.050					0.708	0.049	0.727	0.018	0.721	0.015
	$n_s$	0.960	0.057	0.959	0.055	0.959	0.057	0.961	0.056					0.952	0.055	0.950	0.022	0.959	0.016
Multiplicative	$m_1$	0.012	0.023	0.011	0.023	0.013	0.023	0.013	0.025					0.011	0.022	0.012	0.023	0.012	0.023
	$m_2$	0.011	0.022	0.011	0.023	0.011	0.022	0.011	0.022					0.010	0.022	0.012	0.023	0.012	0.023
	$m_3$	0.019	0.022	0.019	0.022	0.018	0.021	0.019	0.022					0.018	0.022	0.019	0.021	0.020	0.022
	$m_4$	0.009	0.022	0.008	0.022	0.008	0.022	0.007	0.022					0.007	0.022	0.009	0.021	0.010	0.021
Shifts (WL)	$\delta_\gamma^{(1)}$	-0.002	0.015	-0.002	0.015	-0.002	0.015	-0.002	0.015					-0.003	0.015	-0.001	0.015	-0.002	0.015
	$\delta_\gamma^{(2)}$	-0.029	0.012	-0.029	0.012	-0.029	0.012	-0.030	0.012					-0.029	0.012	-0.028	0.011	-0.027	0.011
	$\delta_\gamma^{(3)}$	0.007	0.010	0.007	0.010	0.007	0.010	0.008	0.010					0.008	0.010	0.008	0.010	0.009	0.010
	$\delta_\gamma^{(4)}$	-0.020	0.020	-0.020	0.020	-0.020	0.019	-0.020	0.020					-0.020	0.020	-0.020	0.019	-0.019	0.019
IA	$A_{\text{IA}}$	0.363	0.187	0.352	0.182	0.372	0.187	0.371	0.175					0.367	0.174	0.550	0.120	0.568	0.122
	$\eta$	0.034	2.590	-0.111	2.525	0.126	2.193	0.055	2.227					-0.041	2.367	0.104	1.820	0.381	1.487
Bias	$b_1$	1.381	0.126	1.372	0.129	1.377	0.122	1.376	0.129					1.416	0.133	1.419	0.084	1.447	0.075
	$b_2$	1.691	0.131	1.681	0.138	1.685	0.129	1.685	0.136					1.726	0.143	1.742	0.076	1.774	0.070
	$b_3$	1.650	0.124	1.643	0.131	1.641	0.119	1.646	0.127					1.685	0.135	1.696	0.071	1.728	0.066
	$b_4$	2.041	0.154	2.028	0.161	2.032	0.149	2.034	0.158					2.080	0.166	2.096	0.089	2.136	0.091
	$b_5$	2.076	0.163	2.067	0.170	2.065	0.158	2.075	0.167					2.118	0.172	2.138	0.098	2.180	0.098
Shifts (GC)	$\delta_g^{(1)}$	0.001	0.007	0.001	0.007	0.001	0.007	0.001	0.007					0.001	0.007	0.000	0.007	0.000	0.007
	$\delta_g^{(2)}$	0.001	0.007	0.002	0.007	0.002	0.007	0.002	0.007					0.002	0.007	0.001	0.007	0.002	0.007
	$\delta_g^{(3)}$	0.002	0.006	0.002	0.006	0.002	0.006	0.002	0.006					0.002	0.006	0.003	0.006	0.002	0.006
	$\delta_g^{(4)}$	0.002	0.009	0.003	0.009	0.003	0.010	0.003	0.010					0.003	0.010	0.002	0.009	0.002	0.009
	$\delta_g^{(5)}$	0.000	0.010	-0.001	0.010	0.000	0.010	-0.001	0.010					0.000	0.010	-0.001	0.010	-0.001	0.010

Table 2: Summary statistics of all the parameters