Supplementary Table 1 – Full report of the simulation results without simulated batch effects

100 simulation runs with n=48 samples

	balanced				random				unbalanced			
	mean-p	λ[+]	FDR*	BF**	mean-p	λ[+]	FDR*	BF**	mean-p	λ[+]	FDR*	BF**
ComBat (SVA) without *mod*[++]	*M*=0.4694 *SD*=0.0035	*M*=1.2424 *SD*=0.0027	*M*=7.71 *SD*=9.87 min=0 max=55	*M*=1.30 *SD*=1.06 min=0 max=4	*M*=0.4869 *SD*=0.0029	*M*=1.1113 *SD*=0.0065	*M*=0.38 *SD*=0.69 min=0 max=3	*M*=0.30 *SD*=0.52 min=0 max=2	*M*=0.5781 *SD*=0.0027	*M*=0.6133 *SD*=0.0065	*M*=0 *SD*=0 min=0 max=0	*M*=0 *SD*=0 min=0 max=0
ComBat (SVA) with *mod*[++]	*M*=0.4131 *SD*=0.0034	*M*=1.7282 *SD*=0.0036	*M*=3397.72 *SD*=916.07 min=2509 max=7375	*M*=16.91 *SD*=4.66 min=7 max=31	*M*=0.4075 *SD*=0.0029	*M*=1.7879 *SD*=0.0112	*M*=4939.89 *SD*=988.39 min=3550 max=9009	*M*=21.62 *SD*=5.98 min=8 max=41	*M*=0.3370 *SD*=0.0034	*M*=2.7773 *SD*=0.0552	*M*=68913.91 *SD*=4982.63 min=61438 max=85181	*M*=503.57 *SD*=69.22 min=407 max=754
ComBat (ChAMP)	*M*=0.4143 *SD*=0.0034	*M*=1.7165 *SD*=0.0036	*M*=3159.64 *SD*=886.81 min=2271 max=7033	*M*=16.06 *SD*=4.55 min=7 max=28	*M*=0.4053 *SD*=0.0029	*M*=1.8119 *SD*=0.0131	*M*=5597.48 *SD*=1056.49 min=3939 max=9687	*M*=23.81 *SD*=6.23 min=8 max=47	*M*=0.3126 *SD*=0.0683	*M*=3.2653 *SD*=0.0684	*M*=109097.83 *SD*=5594.35 min=100391 max=126782	*M*=1293.38 *SD*=140.28 min=1078 max=1851
Without ComBat	*M*=0.5023 *SD*=0.0035		*M*=0.04 *SD*=0.19 min=0 max=1	*M*=0.04 *SD*=0.19 min=0 max=1	*M*=0.5026 *SD*=0.0027		*M*=0.11 *SD*=0.34 min=0 max=2	*M*=0.10 *SD*=0.30 min=0 max=1	*M*=0.5026 *SD*=0.0028		*M*=0.38 *SD*=0.69 min=0 max=1	*M*=0.3 *SD*=0.52 min=0 max=1

[++] Model matrix for outcome of interest

[+] Genomic Inflation Factor λ

* Significant CpG sites with False Discovery Rate 5%

** Significant CpG sites with Bonferroni correction 5%