

Table S1 Computed sample size, estimated power, and simulated power for Normal predictors with  $\{\beta_L, \beta_S\} = \{0.4, 1.4\}$ ,  $\{\beta_{I0}, \beta_{S0}\} = \{0, 1\}$ ,  $\sigma^2 = 1$ , Type I error  $\alpha = 0.05$ , and nominal power  $1 - \beta = 0.90$

$\mu_X$	$\sigma_X^2$	$N$	Simulated power	Exact approach		Approximate method	
				Estimated power	Error	Estimated power	Error
0	0.5	58	0.9012	0.9044	0.0032	0.7604	-0.1408
	1	45	0.9057	0.9037	-0.0020	0.6358	-0.2699
	2	32	0.9014	0.9043	0.0029	0.4719	-0.4295
0.5	0.5	33	0.9031	0.9033	0.0002	0.8445	-0.0586
	1	29	0.9033	0.9035	0.0002	0.7861	-0.1172
	2	24	0.9171	0.9084	-0.0087	0.6890	-0.2281
1	0.5	22	0.9125	0.9122	-0.0003	0.8848	-0.0277
	1	20	0.9034	0.9035	0.0001	0.8449	-0.0585
	2	18	0.9048	0.9082	0.0034	0.7938	-0.1110