

Table S4 Computed sample size, estimated power, and simulated power for transformed Gamma predictors with  $\{\beta_L, \beta_S\} = \{0.3, 1.3\}$ ,  $\{\beta_{I0}, \beta_{S0}\} = \{0, 1\}$ ,  $\sigma^2 = 1$ , 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	99	0.8921	0.9025	0.0104	0.7524	-0.1397
	1	76	0.8937	0.9030	0.0093	0.6257	-0.2680
	2	53	0.8824	0.9050	0.0226	0.4602	-0.4222
0.5	0.5	56	0.9023	0.9055	0.0032	0.8430	-0.0593
	1	48	0.8957	0.9024	0.0067	0.7756	-0.1201
	2	38	0.8821	0.9006	0.0185	0.6604	-0.2217
1	0.5	35	0.9004	0.9013	0.0009	0.8682	-0.0322
	1	33	0.9055	0.9089	0.0034	0.8445	-0.0610
	2	28	0.8880	0.9016	0.0136	0.7689	-0.1191