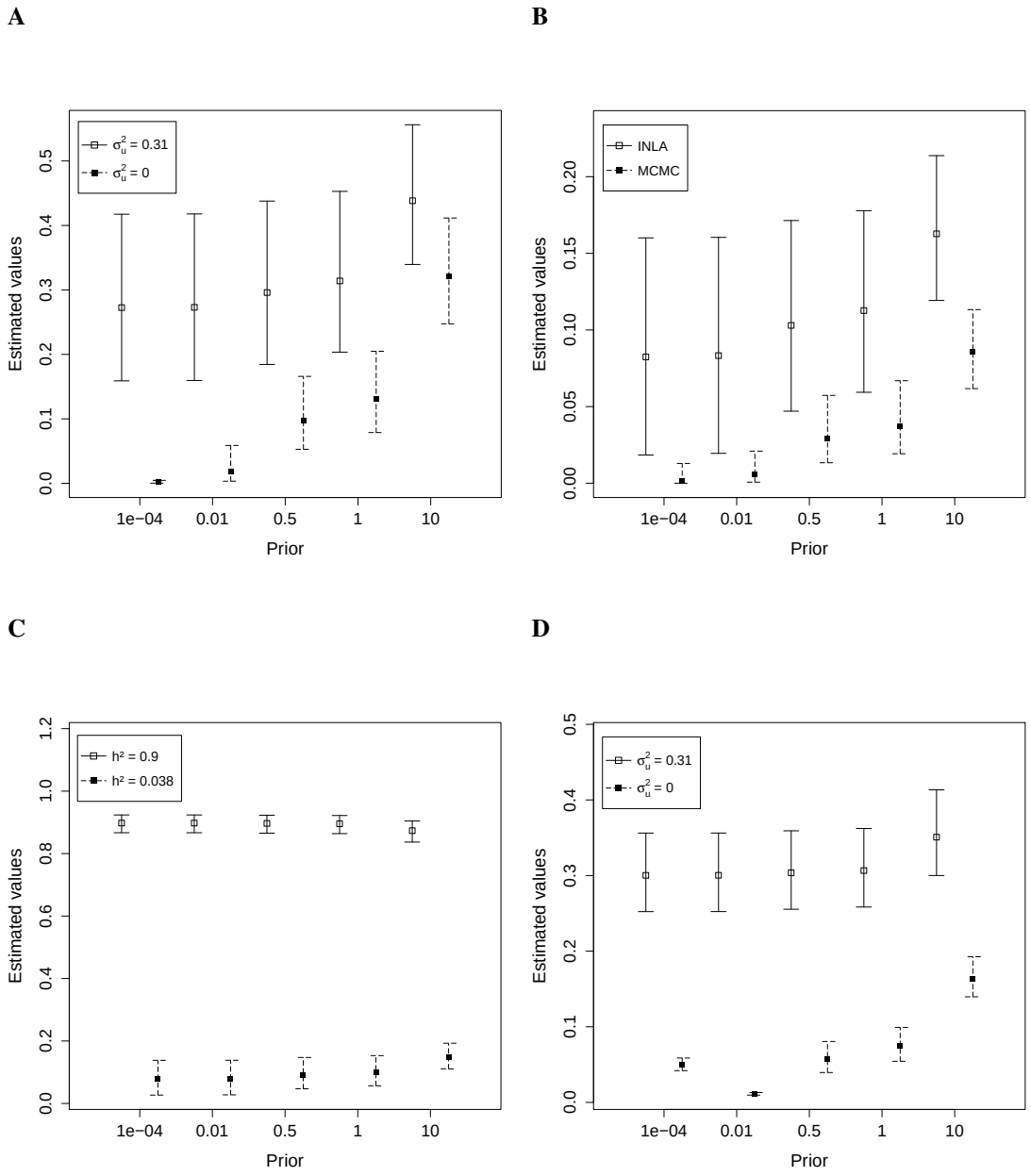

Figure S3 Prior sensitivity analyses for synthetic Gaussian, binary, Binomial, and Poisson case studies. Posterior mean with 95% credible interval for prior InvGamma(a, b), where $a = b$ is equal to 0.0001, 0.01, 0.5, 1 and 10, respectively (note that estimates are shifted relative to the x-axis for clarity). **(A)** Gaussian data for $\sigma_u^2 = 0$ (filled squares, dashed line) and $\sigma_u^2 = 0.31$ (open squares, solid line) for INLA, **(B)** binary data for $h^2 = 0$, INLA (open squares, solid line) and MCMC (filled squares, dashed line), **(C)** Binomial data for $h^2 = 0.9$ (open squares, solid line) and $h^2 = 0.038$ (filled squares, dashed line) for INLA, **(D)** zero-inflated Poisson data for $\sigma_u^2 = 0.31$ (open squares, solid line) and $\sigma_u^2 = 0$ (filled squares, dashed line) for INLA.