Supplemental Table S1. Computational time needed (mean and standard deviation (SD) with 32 rare variants (RVs) in an RV-set) for selected methods under comparison in the simulation study of power (Figure 1; Scenario A for power evaluation).

| Computation time (in seconds) | Mean | SD |
|-------------------------------|-------|-------|
| aSPU | 0.268 | 0.054 |
| aSPU_minP | 1.923 | 0.118 |
| FunSPU | 0.804 | 0.070 |
| SKAT | 0.033 | 0.022 |
| Burden (T1) | 0.024 | 0.015 |