

The training and testing time of TCSD and the compared methods was listed in the Supplementary Table ST2.

Table S2. The training and testing time of TCSD and the compared methods.

| Running Time | TCSD | GCRS | idse-HE | SDPred | Galeaon's Method | RW- SHIN | Ding s Method | FGRMF |
|-------------------------------------|--------|--------|---------|---------|---------------------|-------------|------------------|---------|
| Average time per epoch/minute | 15 | 17 | 25 | 5 | 9 | 20 | 23 | 11 |
| Testing time per drug /second | 0.0027 | 0.0030 | 0.0043 | 0.00086 | 0.0013 | 0.0050 | 0.00282 | 0.00047 |