

Table S1 Correlation coefficient ( $\rho$ ) and P values of HPCOF and other six predictive methods in predicting exchange fluxes at different uptake rates of glucose

Uptake rates	HPCOF	E-Flux	Lee	E-Fmin	GIMME	FBA	IMAT
16.5	0.99( $5 \times 10^{-7}$ )	0.99( $3 \times 10^{-7}$ )	0.99( $7 \times 10^{-7}$ )	0.99( $5 \times 10^{-6}$ )	0.64( $8 \times 10^{-2}$ )	0.64( $9 \times 10^{-2}$ )	0.63( $9 \times 10^{-2}$ )
11.0	0.96( $1 \times 10^{-4}$ )	0.97( $1 \times 10^{-4}$ )	0.93( $7 \times 10^{-4}$ )	0.98( $3 \times 10^{-5}$ )	0.83( $1 \times 10^{-2}$ )	0.83( $1 \times 10^{-2}$ )	0.83( $1 \times 10^{-2}$ )
Average	0.975	0.98	0.96	0.985	0.735	0.735	0.73