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Estimation of flux distribution in metabolic networks accounting for thermodynamic constraints: The effect of equilibrium vs. blocked reactions

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Highlights

- We develop a new thermodynamically-constrained metabolic flux analysis method.
- We compute thermodynamically feasible flux ranges for *A. succinogenes* metabolism.
- A narrower range of fluxes is predicted for the *equilibrium* case than the *block* one.
- We systematically evaluate effects of changes in *pH*, ionic strength and temperature.
- Thermodynamic data uncertainty has dominant contribution in estimating flux ranges.

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