

Development of an *Escherichia coli* platform to exploit higher L-threonine production for high value-added chemicals

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The development of novel and sustainable bioproduction routes remains one of the driving forces behind a greener chemical industry. The growing demand for amino acids, driven by the pharmaceutical and nutritional supplements industries, makes these chemicals an interesting field for developing novel bio-based production strategies. Using genome-wide metabolic models and Flux Balance Analysis, we are devising an *Escherichia coli* strain to produce L-threonine through previously undescribed routes. *In silico* simulations and preliminary *in vivo* experiments show that diverting carbon flux away from serine metabolism may be beneficial to enhance threonine production. This system may be further explored not only for the production of threonine itself, but also for developing an *Escherichia coli* platform able to produce high value-added products which require threonine as a starting substrate.