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Title: Development and application of efficient pathway enumeration algorithms for metabolic engineering applications

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Development and application of efficient pathway enumeration algorithms for metabolic engineering applications

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Paper highlights

- The paper reviews the main (hyper)graph based algorithms for metabolic pathway enumeration
- The FindPath and SSG algorithms, identified as the main alternatives for this problem, were evaluated in three synthetic metabolic engineering case studies revealing some limitations
- These algorithms were significantly improved to boost their computational efficiency and scalability
- In the case studies, the improved versions of the algorithms were able to find previously known pathways from literature and patents, while also identifying novel pathways that need to be further validated
- Overall, these improved algorithms can be the basis for efficient pathway enumeration, while there is still room for improvement in their computational efficiency

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