HPLC-MS AS A TOOL FOR SCREENING MECHANOCHEMICAL SYNTHESIS OF MACROCYCLES

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Development of new macrocyclic receptors is of great interest due to their host-guest chemistry and synthetic versatility, which allows to construct new species bearing unique properties. In designing new macrocycles our group promotes the mechanochemical approach [1,2], that is gaining recognition as a more sustainable and greener technique [3]. Yet, the synthesis of the desired structures (Fig. 1) is challenging due to reactivity and selectivity issues, as well as analytical obstacles caused by complexity of the crude mixtures.

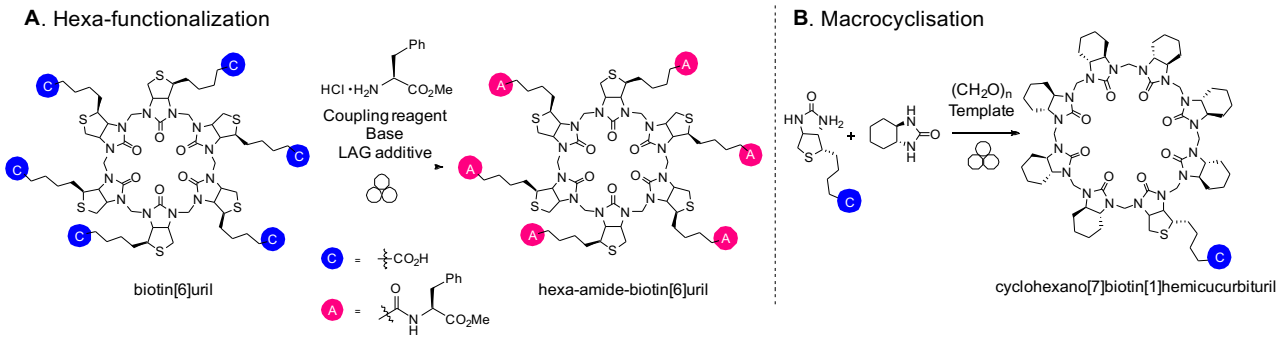

Fig. 1 Mechanochemical synthesis of macrocycles.

HPLC-MS was successfully applied for rapid and convenient screening of mechanochemical conditions [2]. Analysis method that allows to quantitatively follow the reaction outcomes and evaluate the efficiency of various reaction conditions will be presented.

References

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