Pot Economy and Time Economy in the Synthesis of Biologically Active Molecules

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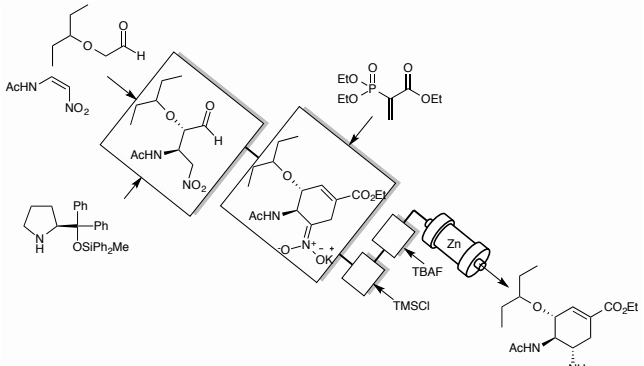
One-pot operations are an effective method for both carrying out several transformations and forming several bonds in a single-pot, while at the same time cutting out several purifications, minimizing chemical waste generation, and saving time. Thus, a one-pot reaction can be not only efficient, but also green and environmentally friendly, and "pot-economy" should be considered in planning a synthesis.[1]

We have accomplished "one-pot" synthesis of (-)-oseltamivir without evaporation nor solvent exchange by the modification of the previous three pot synthesis. Recently we have accomplished 60 minutes total synthesis of (-)-oseltamivir for "time-economy".[2] We further succeeded in the multistep one continuous-flow synthesis of (-)-oseltamivir.[3]

In the presentation, the utility of one-pot reaction and recent synthetic progress of steroid will also be described.[4]



Multistep continuous flow sythesis of (–)-Oseltamivir

References

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2. Y. Hayashi, S. Ogasawara, *Org. Lett.* **2016**, *18*, 3426.
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4. Y. Hayashi, S. Koshino, K. Ojima, E. Kwon, *Angew. Chem. Int. Ed*. **2017**, *56*, 11812.