

ENAMINE-BASED ORGANIC REDUCERS: FROM THE TOOL TO THE APPLICATIONS

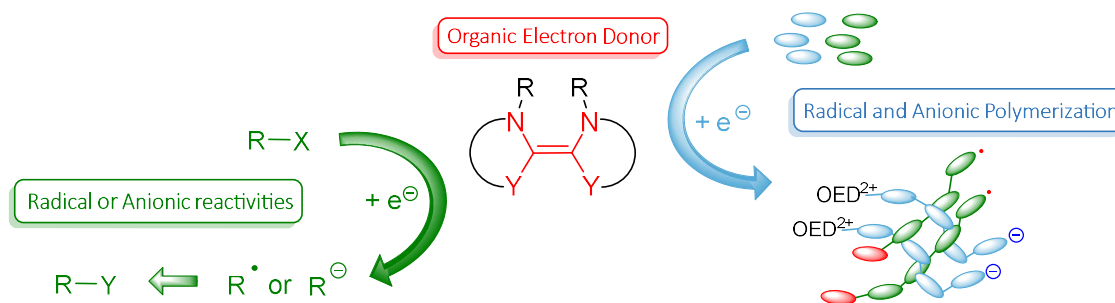
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Enamine-based organic electron donors (OEDs) are powerful reducing agents recognized for their potential in the reduction of challenging substrates.¹ They are capable of single- or double-electron transfers to organic substrates under mild and homogeneous conditions, promoting bond formations through the generation of radical or anionic intermediates. They thus emerge as an attractive novel source of reducing electrons.

Our research focus on synthesizing new organic electron donors and establishing their fields of applications. The pharmacomodulations of compounds of therapeutic interests, the valorization of greenhouse gases or the preparation of high value-added polymers are some examples that will be presented.^{2,3}



1. For reviews, see: a) J. Broggi, T. Terme, P. Vanelle. *Angew. Chem. Int. Ed.*, **2014**, *53*, 384-413. b) J. A. Murphy. *J. Org. Chem.*, **2014**, *79*, 3731-3746. c) E. Doni, J. A. Murphy. *Chem. Commun.* **2014**, *50*, 6073-6087.

2. a) G. Tintori, P. Nabokoff, R. Buhaibeh, D. Bergé-Lefranc, S. Redon, J. Broggi, P. Vanelle. *Angew. Chem. Int. Ed.*, **2018**, *57*, 3148-3153. b) A. Taponard, T. Jarrosson, L. Khrouz, M. Médebielle, J. Broggi, A. Tlili. *Angew. Chem. Int. Ed.* **2022**, *61*, e202204623. c) M. Roche, C. Lacroix, O. Khoumeri, D. Franco, J. Neyts, T. Terme, P. Leyssen, P. Vanelle, *Eur. J. Med. Chem.* **2014**, *76*, 445-459.

3. a) J. Broggi, M. Rollet, J. L. Clément, G. Canard, T. Terme, D. Gignes, P. Vanelle. *Angew. Chem. Int. Ed.*, **2016**, *55*, 5994-5999. b) Y. Zhao, M. Rollet, L. Charles, G. Canard, D. Gignes, P. Vanelle, J. Broggi. *Angew. Chem. Int. Ed.*, **2021**, *60*, 19389-19396.