Leave Blank Here

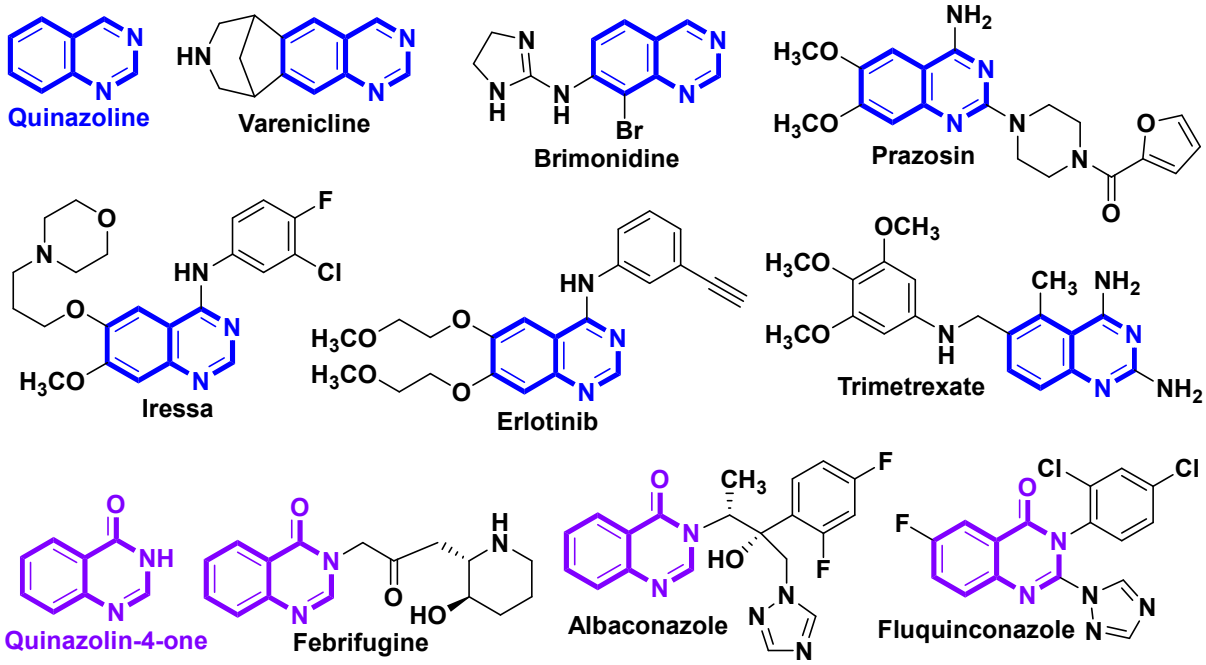
Developing Green Synthesis of Quinazoline and Quinazolin-4-one Derivatives with Zero Consumption of Chemical Reagents

Kangyuan Mo and Yungtzung Huang*

Department of Applied Chemistry, National University of Kaohsiung, Kaohsiung, Taiwan 81148

E-mail: ythuang@nuk.edu.tw

The six-membered N,C-heteroatom rings of quinazoline and quinazolin-4-one are one of the key skeletons in various natural products and pharmaceutical targets.[1] Synthetic methods toward these rings have been developed and reported.



Here we report a green synthesis of quinazoline and quinazolin-4-one derivatives by microwave and electrochemical reactions. Toxic chemical reagents and transition-metal-catalysts are excluded and the corresponding hazardous chemical waste are substantially reduced, which matches the goal of Green Chemistry.[2] This newly developed pathway has been applied in the total synthesis of pharmaceutical targets. Detail information will be discussed in the meeting.

References

(1) (a) Petty, A.; Idippily, N.; Bobba, V.; Geldenhuys, W. J.; Zhong, B.; Su, B.; Wang, B. *Eur. J. Med. Chem.*, **2018**, *143*, 1261. (b) Smullen, S.; Evans, P. *Tetrahedron*, **2017**, *73*, 5499.

(2) Anastas, P. T.; Warner, J. C. *Green Chemistry: Theory and Practice*, Oxford University Press: New York, **1998**, P.30.