

Chapter 6

Conclusive Remarks



Cost effectiveness, environmentally benign, and synthetic efficiency are three most important aspects of organic synthesis. The first two aspects are more significant for large scale synthesis. However, synthetic efficiency is critical for both research scale synthesis and large scale production. The pot, atom, and step economy (PASE) synthesis presented in this book, including one-pot reactions, cascade reactions and multicomponent reactions, have intrinsic efficiency for being simple in operation, short in reaction time, using less energy, saving resource, and reducing waste by eliminating intermediate separations. The PASE synthesis also has a great potential for scale up. With the increasing awareness on green chemistry, synthetic chemists have been devoting more effort on the development of PASE synthesis, and have covered a broad range of transformations including ionic, catalytic, pericyclic, and radical reactions. As a powerful tool in the synthetic toolbox, PASE synthesis together with other green synthetic methods will play more important roles in the synthesis of complex organic molecules with biological interests and other utilities.