Abstract

The research work carried out in this thesis is mainly focused on the 1,6-conjugate addition of carbon, nitrogen and sulphur nucleophiles to the p-quinone methides (*p*-QMs) under conventional batch processes and also under continuous-flow conditions. Under conventional conditions, p-quinone methides have been utilized as synthons to access structurally complex and therapeutically active 1,2,3-triazole-fused isoindolines, cyclohepta[*b*]indoles and highly substituted indene derivatives. In fact, one of the protocols has been elaborated to the total synthesis of a resveratrol based natural product called (±)-isopaucifloral F. In addition, the 1,6-conjugate addition reactions of *p*-QMs with zinc alkyls and thiols have been explored under continuous-flow conditions using microreaction technology to access unsymmetrical diaryl methane derivatives. The results will be discussed in the talk.