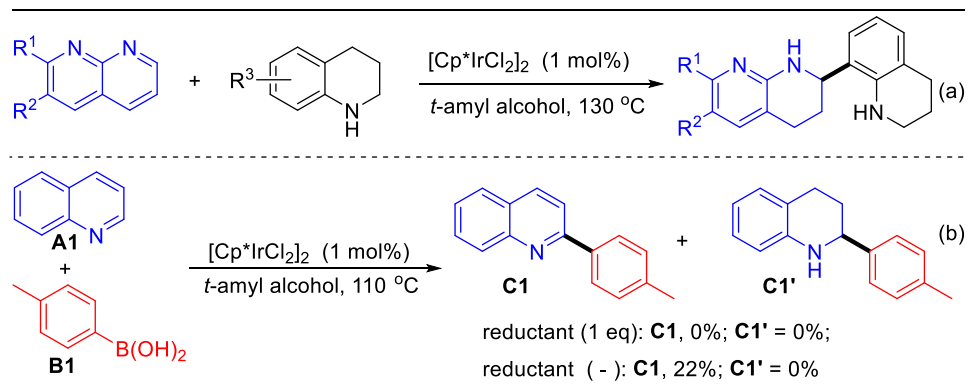
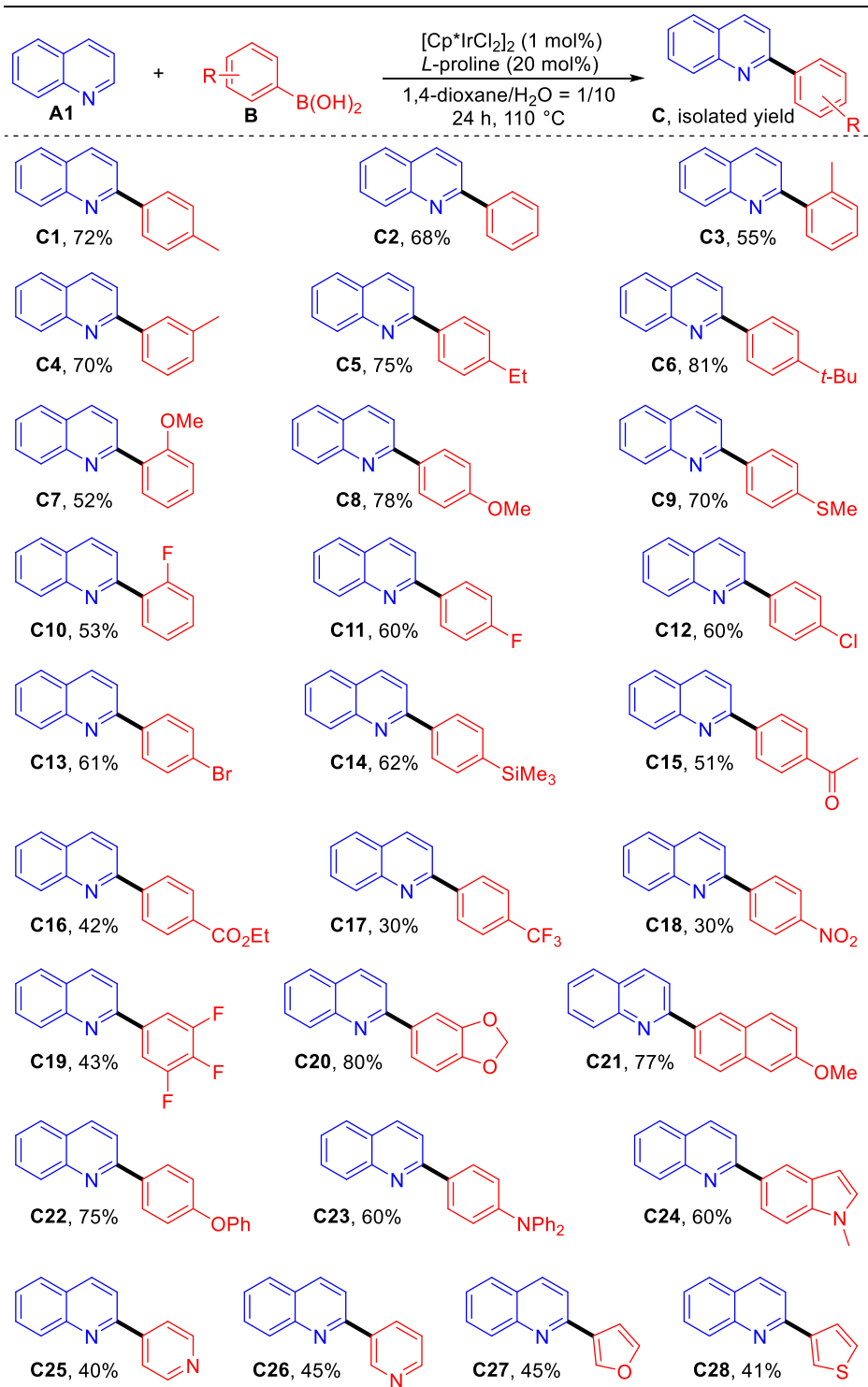


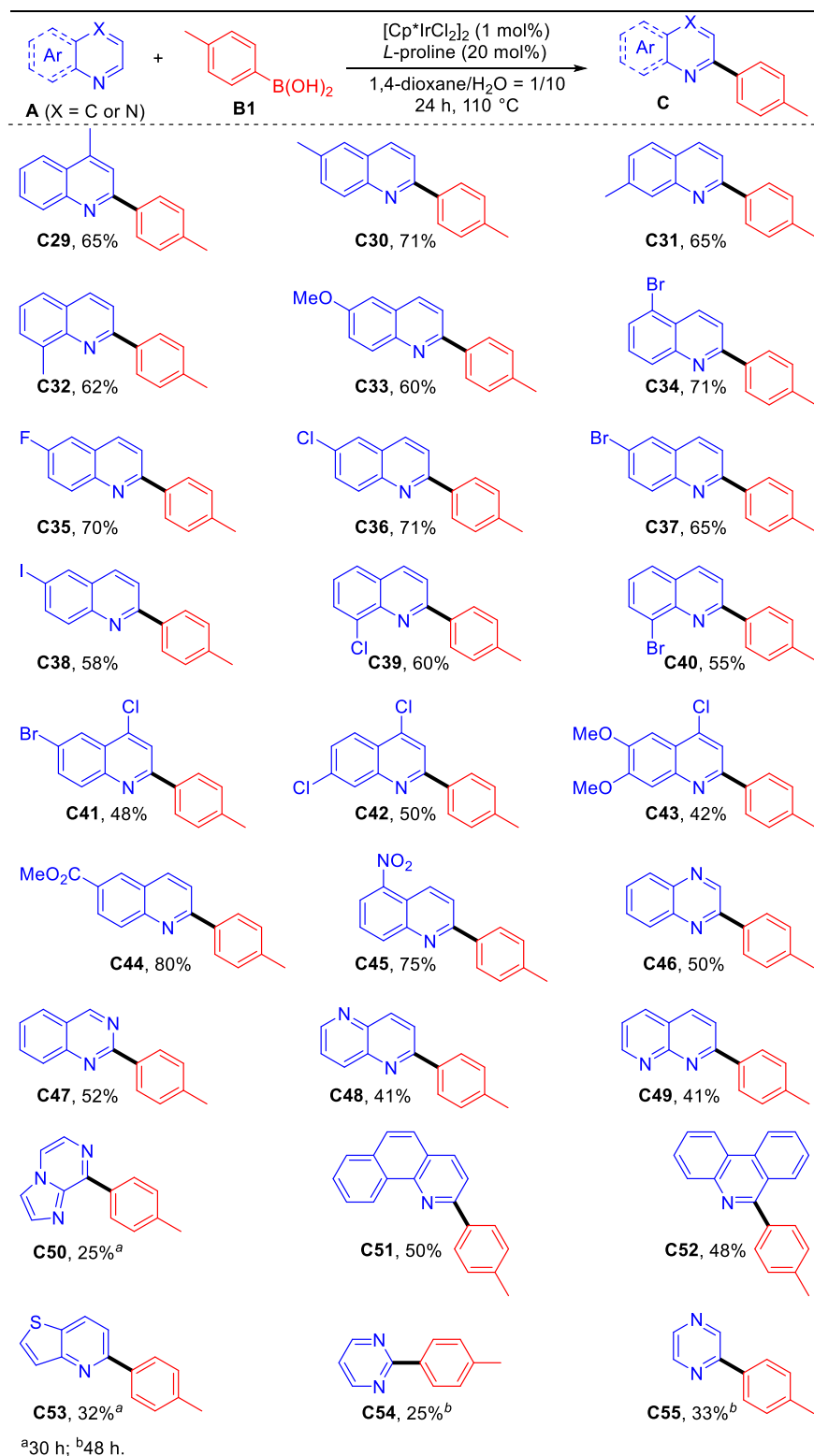
Scheme 1. The methods for access to 2-aryl N-heteroarenes.



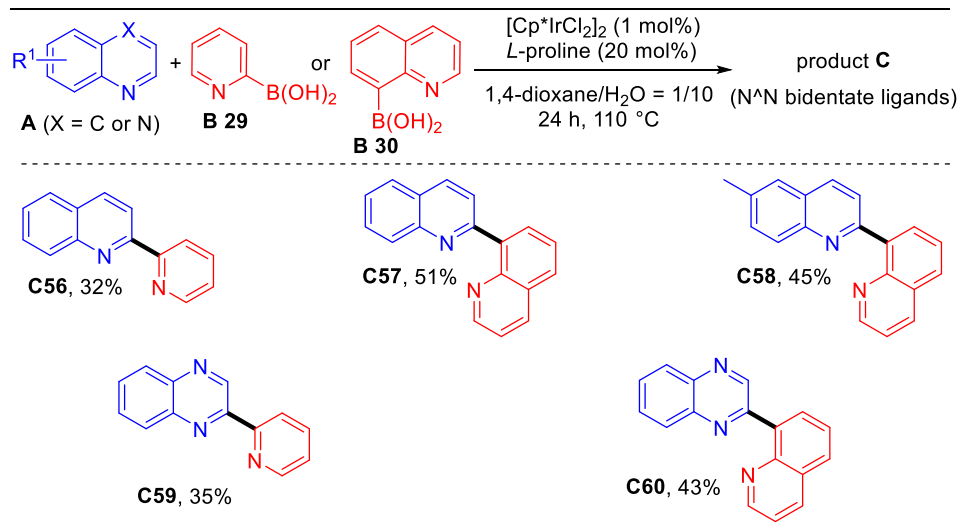
Scheme 2. New observation on direct α -arylation of quinoline.



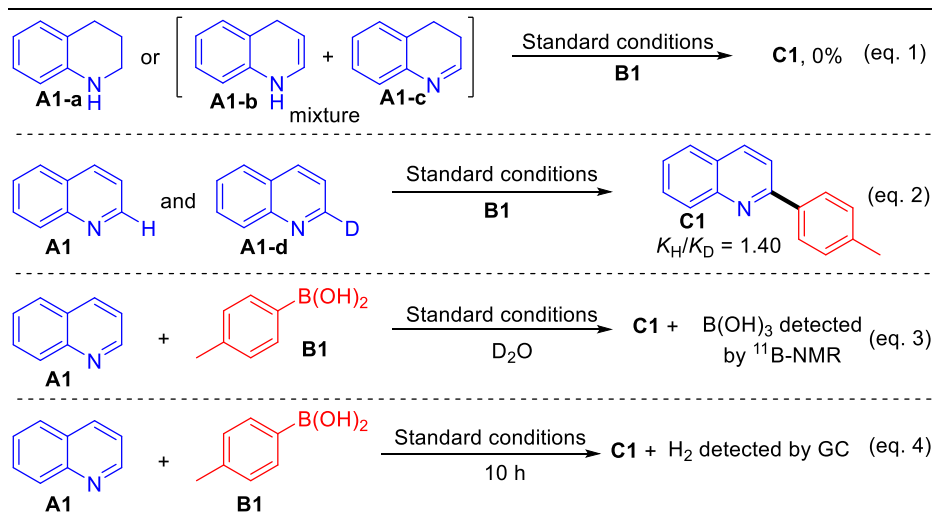
Scheme 3. Synthesis of 2-aryl quinolines by variation of arylboronic acids.



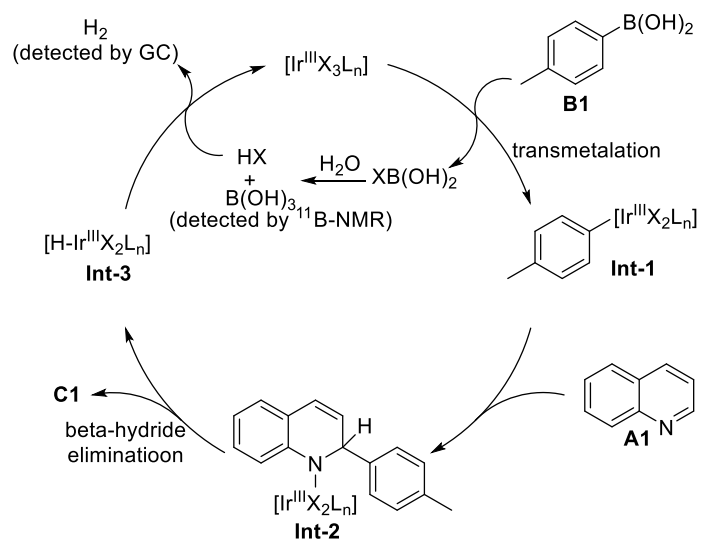
Scheme 4. Synthesis of 2-*p*-tyl products by variation of N-heteroarenes.



Scheme 5. Direct access to different N-bidentate ligands by α -heteroarylation of N-heteroarenes.

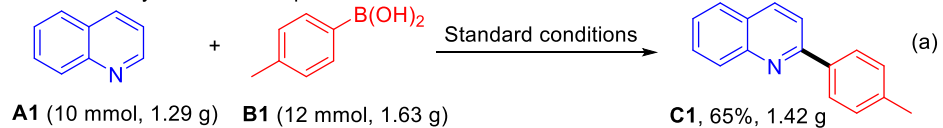


Scheme 6. Control experiments.

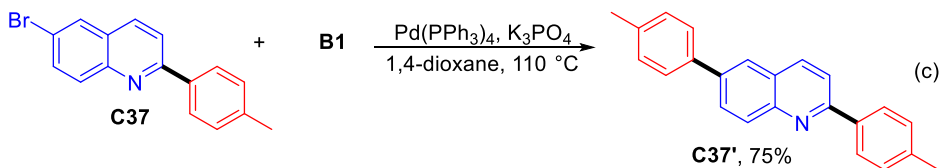
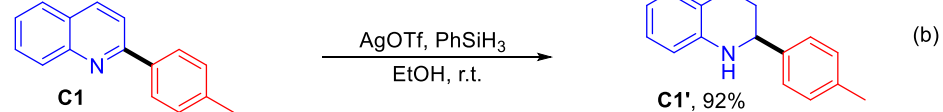


Scheme 7. Plausible reaction mechanism.

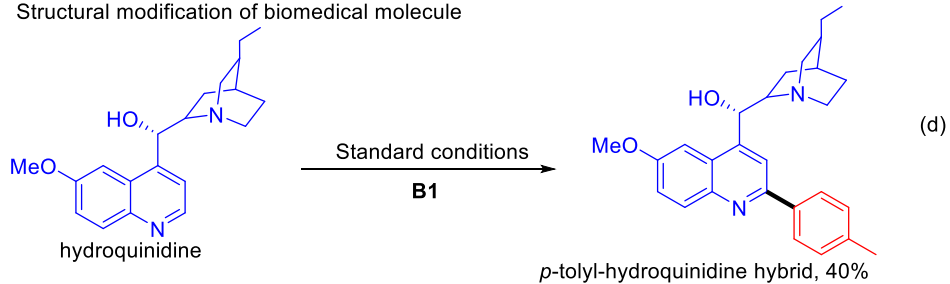
Gram-scale synthesis of compound **C1**



Product diversification transformation



Structural modification of biomedical molecule



Scheme 8. Synthetic utility of the developed chemistry.