

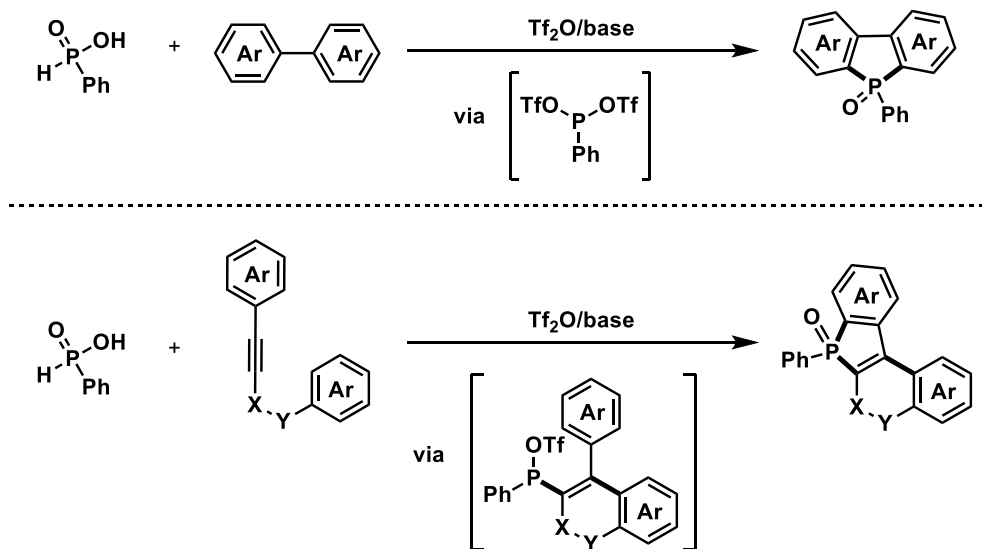
Synthesis of Benzophosphole Derivatives via Phosphenium Dication Mediated Sequential Bond Forming Reaction

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Dibenzophosphole derivatives have now received significant attention in various fields of organic chemistry because of their unique physical, optical, and electronic properties, as exemplified by impressive application to photovoltaic cells. However, the reported synthetic protocols still suffer from tedious multistep procedures and use of unstable and toxic starting materials/reagents, and low reaction efficiency. On the other hand, we recently developed the unique method for generation of highly reactive phosphenium cations from readily available and easy-to-handle secondary phosphine oxides and its application to several new C-P bond forming reactions.¹

Herein, we report one-step synthesis of dibenzophospholes from simple biaryls and phosphinic acids by simultaneous C-P bond formation via phosphenium dication equivalents.² The synthesis of benzophospholes from aryl alkynes and phosphenium dications via sequential C-P/C-C bond formation is also described.



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