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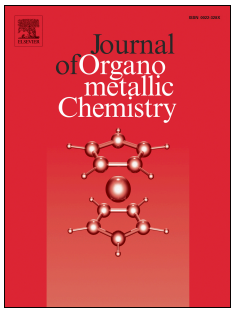

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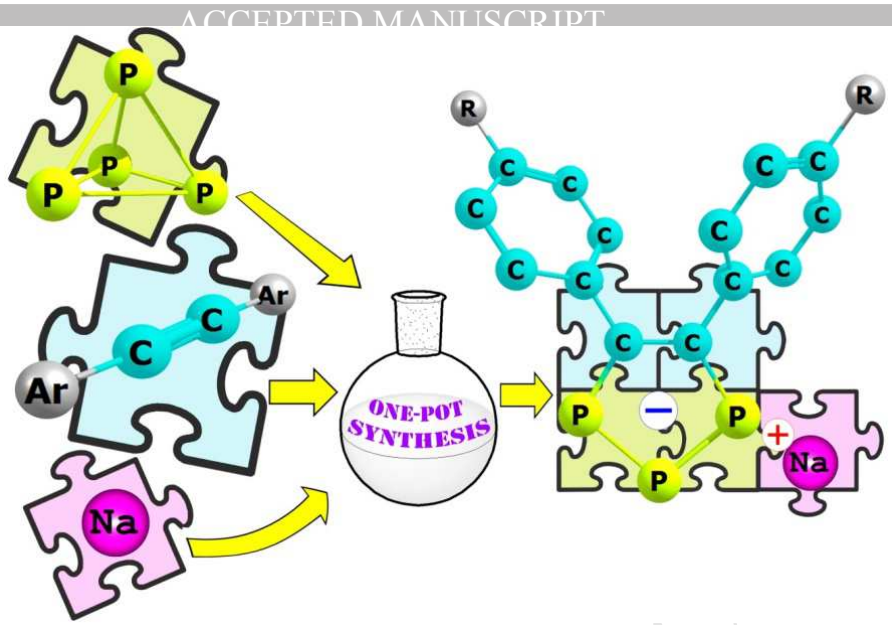

One-pot synthesis of aryl-substituted 1,2,3-triphospholide anions

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**Dedicated to Professor Evamarie Hey-Hawkins on the Occasion of Her 60th Birthday*

Abstract Reaction of white phosphorus P_4, sodium metall and aryl-substituted acetylenes R-C≡C-R' (R = Ar, R' = Ar, H) and diacetylenes Ph-C≡C-$(C_6H_4)_n$-C≡C-Ph (n = 0, 1) in one flask gives exclusively sodium 4,5-diaryl-1,2,3-triphospholides **1a-f** and disodium 5,5'-bis(4-phenyl-1,2,3-triphospholides) **3a** and **3b** with 40-70% yields. Capacity of the 1,2,3-triphospholide ring to conjugation with the aryl substituents, quantitatively characterized by the Raman spectroscopy and quantum chemical computations, was shown to be very similar to the conjugational abilities of the closely related 1,2-diphospholides.

Keywords white phosphorus activation, phosphacyclopentadienide anions, low-coordinate phosphorus, phosphorus heterocycles, conjugation, Raman spectra.

1. Introduction