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Shigeo Kimura^a; Shigekazu Ito^a; Masaaki Yoshifuji^a

^a Tohoku University, Japan

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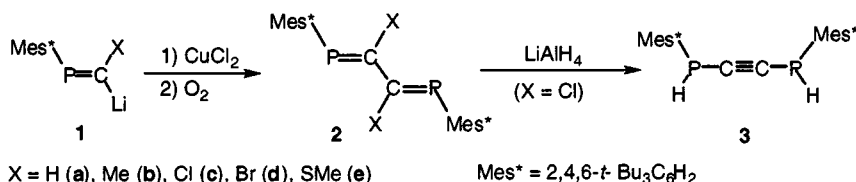
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PREPARATION OF SOME 1,4-DIPHOSPHA-1,3-BUTADIENES BY OXIDATIVE COUPLING REACTION

Shigeo Kimura, Shigekazu Ito, and Masaaki Yoshifuji
Tohoku University, Japan

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1,4-Diphospha-1,3-butadiene is one of the heavier conjugated π -systems. We studied the copper-mediated coupling reaction of kinetically stabilized phosphoethenyllithiums **1**. The lithium reagents **1a–e** were allowed to react with copper(II) chloride and oxygen to afford the corresponding 1,4-diphospha-1,3-butadienes **2** in moderate to good yields.^{1,2} The x-ray structural analysis revealed that **2d** (X = Br) takes a planar *s-trans* conformation, whereas **2e** (X = SMe) takes a twisted *s-cis* conformation. **2c** (X = Cl) was allowed to react with LiAlH_4 to afford **3** as a single diastereomer.³



SCHEME 1

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Address correspondence to Masaaki Yoshifuji, Department of Chemistry, Graduate School of Science, Tohoku University, Aoba, Sendai 980-8578, Japan.
 E-mail: yoshifj@mail.cc.tohoku.ac.jp