

# TOWARD AN ATOMIC CARBON SOURCE, SYNTHESIS AND REACTIVITY OF A SULFONIUM/SULFONIUM BIS-YLIDE

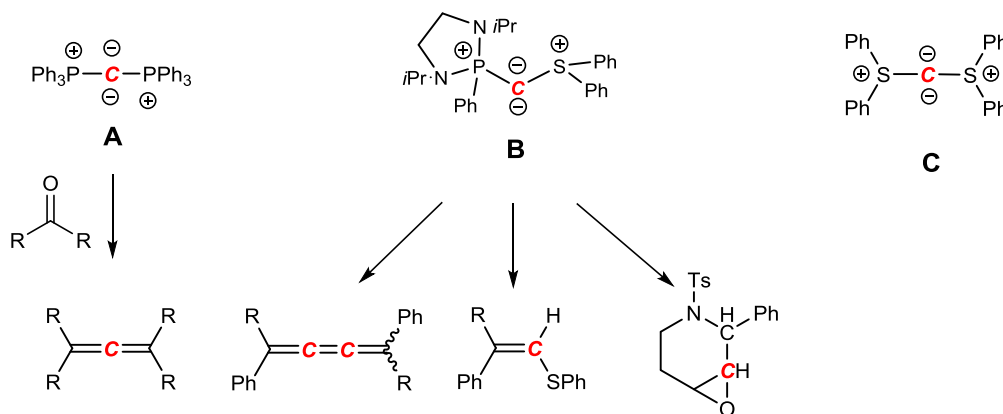


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Bis-ylides are species containing two ylide functions cumulated on the same carbon atom. The first report on these species was made by Ramirez *et al.* who synthesised hexaphenylcarbodiphosphorane (**A**)<sup>1</sup>, that can be described as a carbon atom bearing two negative charges, stabilised by two phosphonium moieties. They also described its reactivity with carbonyl compounds, leading to the formation of allenes, with a formal transfer of the central carbon atom. Despite this result, this kind of reactivity from bis-ylides has remained mostly out of the spotlights.

Later, our group reported the synthesis of the phosphonium/sulfonium mixed bis-ylide **B** and its reactivity as an atomic carbon source.<sup>2</sup> The variation of the moieties surrounding the central carbon atom allowed to broaden the scope of possible reactions compared to **A**. Interestingly, Fujii *et al.* described the sulfonium/sulfonium bis-ylide **C** as a highly unstable species but its reactivity as a potential atomic carbon source was not explored.<sup>3</sup> Bis-ylide **C** being accessible only through a lengthy and difficult synthetic pathway, we decided to develop a more convenient synthesis in order to study its reactivity. Here we report a novel, more efficient, strategy to access **C** and the first elements of its reactivity as a potential atomic carbon source.



## References

<sup>1</sup> F. Ramirez, N.B. Desai, B. Hansen, N. McKelvie, *J. Am. Chem. Soc.* **1961**, 83, 3539-3540

<sup>2</sup> N. Dellus, T. Kato, X. Bagán, N. Saffon-Merceron, V. Branchadell, A. Baceiredo, *Angew. Chem. Int. Ed.* **2010**, 49, 6798-6801

<sup>3</sup> T. Morosaki, R. Iijima, T. Suzuki, W. Wang, S. Nagase, T. Fujii, *Chem. Eur. J.* **2017**, 23, 8694-8702