π-Spacer-coupled Diimidosulfinates

Thomas Schulz, David-Raphael Dauer, and Dietmar Stalke

Institut für Anorganische Chemie, Georg-August Universität Göttingen, Tammannstraße 4, 37077 Göttingen, Germany

Reprint requests to Prof. Dr. D. Stalke. Fax: 0551/393459. E-mail: dstalke@chemie.uni-goettingen.de

Z. Naturforsch. 2010, 65b, 711 – 718; received February 9, 2010

To synthesize ligands that are capable of coordinating two metals, 1,4-dilithiumbenzene and 4,4′-dilithiumbiphenyl were reacted with different sulfur diimides to give coupled diimidosulfinates. [(THF)₄Li₂{(NSiMe₃)₂S}₂biphenyl] (1) and [(THF)₁.₅Li₂{(NSiMe₃)₂S}₂biphenyl]∞ (2) could be isolated and structurally characterized. While 1 forms distinct molecules in the solid state, 2 crystallizes in infinite chains. The lithium complex with a benzene group as spacer could not be isolated due to co-complexed lithium bromide. Subsequent metal exchange reactions with dimethylaluminum chloride afforded [{Me₂Al(N⁵Bu)₂S}₂biphenyl] (3) and [{Me₂Al(NSiMe₃)₂S}₂(C₆H₄)] (4).

Key words: Sulfur, Imide, Aromatic Spacers, Lithium, Aluminum