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Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713618290>

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To cite this Article Kolly, Sandra , Meier, Hansrudolf and Winkler, Talmo(1993) 'Spiro[1,3-benzoxathiepin-4(5H),1'-cyclohexa[2,4]dien]-2,2'-dione, a Novel Heterocyclic Ring System', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 74: 1, 461

To link to this Article: DOI: 10.1080/10426509308038164

URL: <http://dx.doi.org/10.1080/10426509308038164>

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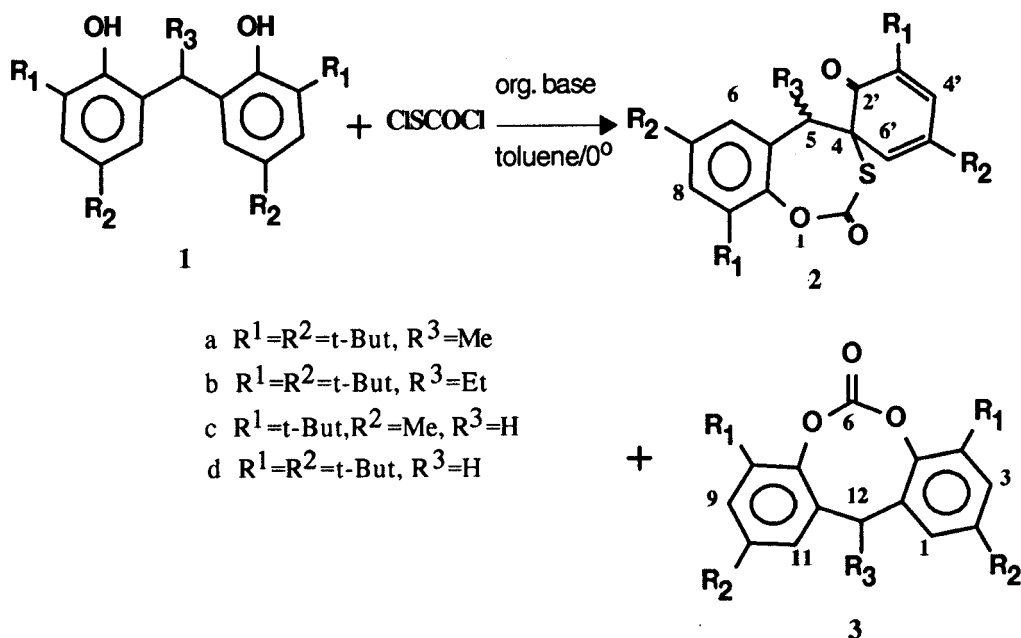
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Spiro[1,3-benzoxathiepin-4(5H),1'-cyclohexa[2,4]dien]-2,2'-dione, a Novel Heterocyclic Ring System

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Besides the common cyclisation reactions between divalent electrophiles such as SOCl_2 , SCl_2 , etc. and 2,2'-alkylidene-bisphenols **1** with selective attack by the two oxygens yielding dibenzo[d,g][1,3,2]dioxathiocines [1] we observed previously an unusual cyclisation of **1** with S_2Cl_2 with a nucleophilic attack by the ortho- and para-carbon atoms (C(2) and C(4)) of bisphenol **1** [2]. We now report a new type of cyclocondensation reaction of 4,4',6,6'-tetrasubstituted 2,2'-alkylidene-bisphenols **1** with ClSCOCl affording spiro[1,3-benzoxathiepin-4(5H),1'-cyclohexa[2,4]dien]-2,2'-diones **2** together with the cyclic carbonates **3**. The structures of the products were elucidated mainly by ^{13}C -NMR- and ^1H -NMR-spectroscopy. The mode of formation of the novel spiro thiocarbonates **2** resp. the known carbonates **3** [3] is discussed.



[1] P. Hug, S. Kolly, H.R. Meier, R. Pitteloud, D. Poppinger, G. Rihs, G. Rist, *Helv. Chim. Acta* **1990**, *73*, 618.

[2] S. Kolly, H.R. Meier, G. Rihs, T. Winkler, *Helv. Chim. Acta* **1988**, *71*, 1101.

[3] W.O. Drake, H. Hinsken, H. Mayerhoefer, W.H. Müller, Sandoz Ltd. US Patent 4230857 (1980).