Synthesis of Novel Benzosuberone Derivatives using Organophosphorus Reagents and their Antitumor Activities

Leila S. Boulos, Hoda A. Abdel-Malek, and Naglaa F. El-Sayed

Department of Organometallic and Organometalloid Chemistry, National Research Centre, El-Behoos St., P. O. 12622, Dokki, Cairo, A. R. Egypt

Reprint requests to L. S. Boulos. E-mail: leilagoubran@yahoo.com


2-Arylidenebenzosuberones react with a Wittig–Horner reagent in the presence of sodium hydride as a base to give the novel dimethyl (4-(4-methoxyphenyl)-2-oxa-2,3,4,5,6,7-hexahydrobenzo-[6,7]cyclohepta[1,2-b]pyran-3-yl)phosphonate. On the other hand, 6,7-dihydrobenzo[6,7]cyclohepta[1,2-b]pyran-2(5H)-ones were isolated from the reaction of 2-arylidenebenzosuberones with Wittig–Horner reagents using alcoholic sodium alkoxide. The reaction of 2-arylidenebenzosuberones with trialkyl phosphites affords the alkyl phosphonate derivatives. Tris(dialkylamino)phosphines react with 2-arylidenebenzosuberones to give the oxaphospholanoxide products. 2-Arylidenebenzosuberones react with Lawesson’s reagent to yield the corresponding dimers. Some of the prepared products were screened for antitumor activity.

Key words: Benzosuberone Derivatives, Organophosphorus Reagents, Antitumor Activity