

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

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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(5*H*)-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