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Synthesis and Screening for Anticancer Activity of a series of Novel Chalcone derivatives on MCF-7 Cell Line

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Abstract:In recent past the study of anti-cancer activity of number of chemical compounds has gained momentum. It is our observation that the chalcone containing compounds exhibit potent anti-cancer activities.In our attempt to understand chalcone derivatives as inhibitors of cancerous cells, a series of four new and novel chalcone compounds namely (E)-3-(4-Hydroxy-3-methoxyphenyl)-1-(4-hydroxyphenyl)prop-2-en-1-one(**HMHP-II**),(2E)-1-(4-hydroxy-3- methoxyphenyl)-3-(4-hydroxyphenyl)prop-2-en-1-one(**HMHP-II**),4-[(2E)-3-(4-methoxyphenyl)prop-2-enoyl]phenyl benzoate(**MPEB**) and 3-(4-methoxyphenyl)-5-(4-benzyloxyphenyl)-6-methyl-2-cyclohexen-1-one(**MBMC**) have been synthesized by Claisen-Schimdt reaction in which acetophenone condensed with various aromaticaldehydes. All the four derivatives were screened for their anti-cancer effect by 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay method and found to be an excellent inhibitor on MCF-7 cell line.

Keywords: chalcone; cytotoxicity; MCF-7 cells; cell lines;MTT assay method, % Cell viability.

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