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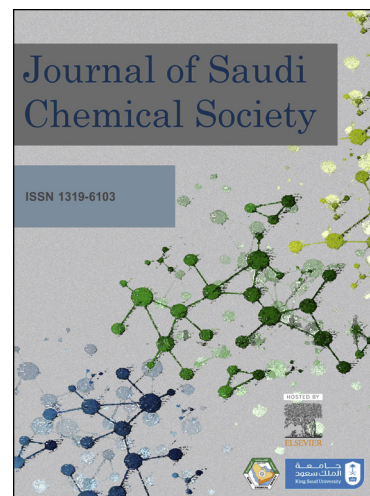
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## Antioxidant and Anticancer Activities of $\alpha$ -Aminophosphonates Containing Thiadiazole Moiety

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### Abstract:

In the current study,  $\alpha$ -aminophosphonates containing thiadiazole moiety (**1-4**) was synthesized, characterized and their antioxidant and anticancer activities were carried out. The compounds (**1-4**) were synthesized from the reaction of 2-amino-5-methyl-1,3,4-thiadiazole with various aldehydes, triphenylphosphite and mixed valence Cu(I)/Cu(II) inorganic coordination polymer as a catalyst. The elucidation of compounds structures were carried out using different spectroscopic techniques. The antioxidant properties were carried out using radical scavenging methods (DPPH) which exhibited excellent scavenging activity particularly with compound **3**. The cytotoxic effects of the five compounds on the human hepato cellular carcinoma (HepG2) and breast adeno carcinoma (MCF7) cell lines were evaluated using MTT assay which revealed the presence of cytotoxic effect with highest activity for

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