

## Synthesizing derivatives from cyclopentanone analogue curcumin and their toxic, antioxidant and anti-inflammatory activities

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### Abstrak

#### <b>ABSTRACT</b><br>

Three types of cyclopentanone derivatives have been synthesized from aromatic aldehyde and ketone derivatives under

a base condition through aldol condensation. These cyclopentanone products were 2,5-dibenzylidene-cyclopentanone (a), 2,5-bis-(4-hydroxy-benzylidene)-cyclopentanone (b), and 2,5-bis-(4-hydroxy-benzylidene)-cyclopentanone (c)

which has a yield of 63-99%. The chemical structure of these compounds were determined using UV, IR and NMR

spectroscopy. In order to clarify the role of hydroxyl and amine moieties, toxic, antioxidant and anti-inflammatory

activities were carried out. The toxic test indicated that the compounds showed strong toxicity. In addition, the presence of hydroxyl and amine groups on both rings of curcumin increased the antioxidant and anti-inflammatory activities.