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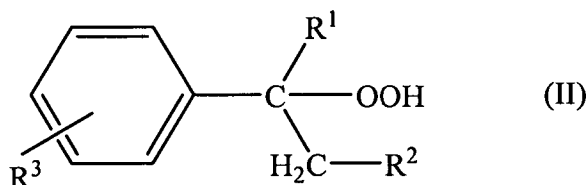
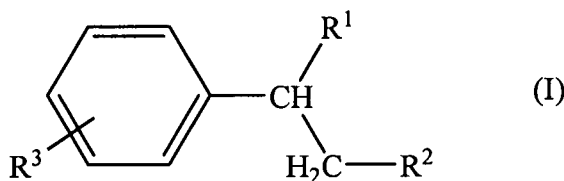
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(54) Title: PROCESS FOR OXIDIZING ALKYLAROMATIC COMPOUNDS



(57) Abstract: In a process for producing hydroperoxides, an alkylaromatic compound of general formula (I): in which R¹ and R² each independently represents hydrogen or an alkyl group having from 1 to 4 carbon atoms, provided that R¹ and R² may be joined to form a cyclic group having from 4 to 10 carbon atoms, said cyclic group being optionally substituted, and R³ represents hydrogen, one or more alkyl groups having from 1 to 4 carbon atoms or a cyclohexyl group, is contacted with oxygen in the presence of a catalyst comprising a polyoxometalate to produce a hydroperoxide of general formula (II): in which R¹, R² and R³ have the same meaning as in formula (I) and wherein the polyoxometalate comprises a polyoxotungstate substituted with at

least one further transition metal. The hydroperoxide of formula (II) may then be converted to a phenol and an aldehyde or a ketone of the general formula R¹COCH₂R² (III), in which R¹ and R² have the same meaning as in formula (I). In the case where the ketone is cyclohexanone, this may then be dehydrogenated to produce further phenol.