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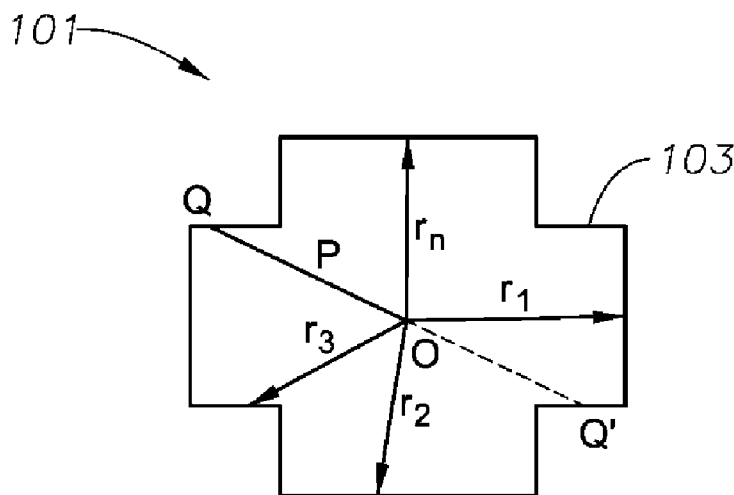
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(54) Title: PROCESS FOR MAKING ALKYLATED AROMATIC COMPOUND

**FIG. 1**

(57) **Abstract:** A process for producing an alkylated aromatic compound comprises contacting an aromatic starting material and hydrogen with a plurality of catalyst particles under hydroalkylation conditions to produce an effluent comprising the alkylated aromatic compound, the catalyst comprising a composite of a solid acid, an inorganic oxide different from the solid acid and a hydrogenation metal, wherein the distribution of the hydrogenation metal in at least 60 wt% of the catalyst particles is such that the average concentration of the hydrogenation metal in the rim portion of a given catalyst particle is C_{rim} , the average concentration of the hydrogenation metal in the center portion of the given catalyst particle is C_{center} , where $0.2 < C_{rim}/C_{center} < 2.0$. Also disclosed are hydroalkylation catalyst and process for making phenol and/or cyclohexanone using the catalyst.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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