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(71) Applicant: **SHELL INTERNATIONALE RESEARCH
MAATSCHAPPIJ B.V.** [NL/NL]; Carel van Bylandtlaan
30, NL-2596 HR The Hague (NL).

(72) Inventors: **MURRAY, Brendan, Dermot**; 1118 Stoney
Hill Drive, Houston, TX 77077 (US). **VAPORCIYAN,
Garó, Garbis**; Badhuisweg 3, NL-1031 OM Amsterdam
(NL).

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(54) Title: PREPARATION OF OXIRANE COMPOUNDS

(57) **Abstract:** Process for the preparation of oxirane compounds, which process comprises: (i) oxidation of an alkylaryl to obtain an alkylaryl hydroperoxide, (ii) contacting at least part of the alkylaryl hydroperoxide obtained in step (i) with olefin in the presence of a catalyst to obtain an oxirane compound and alkylaryl hydroxyl, (iii) separating oxirane compound from reaction product of step (ii), and (iv) contacting at least part of the reaction product from which an oxirane compound has been separated, with hydrogen to obtain alkylaryl at least part of which is recycled to step (i), in which process the alkylaryl is an alkylaryl compound comprising more than 1 alkyl substituent.