

Title (en)  
METHOD FOR CARRYING OUT A BALANCED REACTION

Title (de)  
VERFAHREN ZUR DURCHFÜHRUNG EINER GLEICHGEWICHTSREAKTION

Title (fr)  
PROCEDE DE REALISATION D'UNE REACTION D'EQUILIBRE

Publication  
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Application  
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Abstract (en)  
[origin: WO9947484A1] The invention relates to a method for carrying out a balanced reaction, comprising the following steps: a) a low-boiling educt (E2) which is gaseous in the reaction conditions is guided through a separate, liquid, higher-boiling educt (E1) in a bubble reactor and b) unreacted educt (E2) is conveyed to a membrane module together with the product to be separated (P1), which is also in gaseous form, as feed. Said membrane module is located outside of the reactor and is suitable for vapour permeation. In said membrane module, P1 is separated off as permeate whilst E2 is recovered as retentate and returned to the reactor in a circuit until the desired quantity of educt (E1) has been converted into the target product. The method is characterised in that carbonyl compounds of formula (I)  $R_{<1>}-(CO)_{n1}-(B)_m-(CO)_{n2}-R_{<2>}$  are used as (E1), B representing an optionally hydroxy- and/or carboxy-substituted alk(en)yl radical with 1 to 12 carbon atoms which is also optionally interrupted by an ether oxygen, a phenyl radical or a carbonyl group,  $R_{<1>}$  and  $R_{<2>}$  representing hydrogen or a hydroxyl or alkyl radical with 1 to 12 carbon atoms independently of each other or forming a saturated or unsaturated aliphatic C5 or C6 ring together with at least one carbonyl group, said ring being optionally substituted with C1-C4 alkyl and/or hydroxy and the sum of  $n1$  and  $n2$  being either 1 or 2 and  $m$  being 0 or 1, and in that aliphatic alcohols with 2 to 8 carbon atoms are used as (E2).

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