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(54) Title: PROCESS FOR PREPARING AN ALPHA-OLEFIN FEED STREAM AND POLYMERIZATION PROCESS USING THE SAME

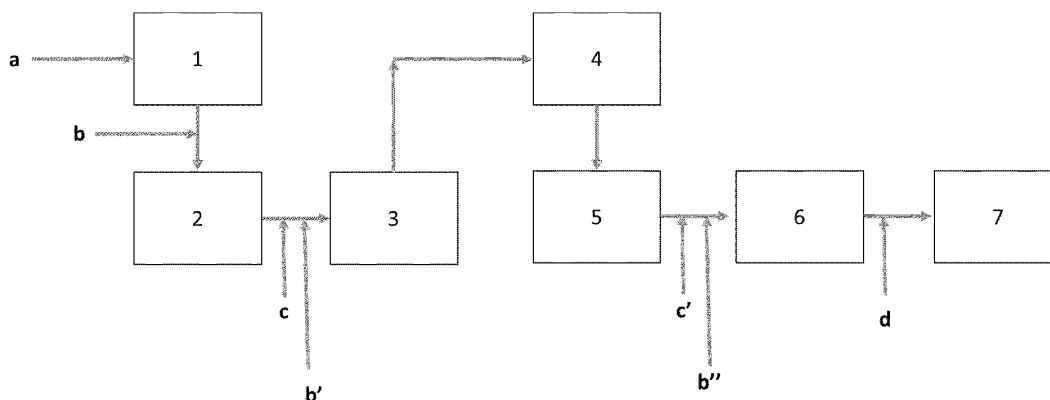


Figure 2

(57) Abstract: The present invention relates to a process for preparing an alpha-olefin feed stream comprising providing a low-pressure initial stream comprising a hydrocarbon solvent at a low pressure level in the range of from below atmospheric pressure to 15 barg; pressurizing the low-pressure initial stream to a medium pressure level in the range of from greater than 15 to 45 barg to form a medium-pressure initial stream; pressurizing the medium-pressure initial stream to a high pressure level in the range of from greater than 45 to 300 barg to form a high-pressure initial stream; wherein a monomer stream comprising an alpha-olefin monomer is introduced into the medium-pressure initial stream at medium pressure level and/or into the high-pressure initial stream at high pressure level, and one or more comonomer streams comprising at least one alpha-olefin comonomer is/are introduced into the low-pressure initial stream at low pressure level, and/or into the medium-pressure initial stream at medium pressure level, and/or into the high-pressure initial stream at high pressure level; to form an alpha olefin feed stream. Alternatively, the medium pressure level may be left out, wherein a monomer stream comprising an alpha-olefin monomer is introduced into the high-pressure initial stream at high pressure level; and one or more comonomer streams comprising at least one alpha-olefin comonomer is/are introduced into the low-pressure initial stream at low pressure level, and/or into the high-pressure initial stream at high pressure level; to form said alpha olefin feed stream. The above processes enable solution polymerisation with reduced process complexity and increased process economics.

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