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(54) Title: PROCESS FOR SYNTHESIS OF DIMETHYL ETHER

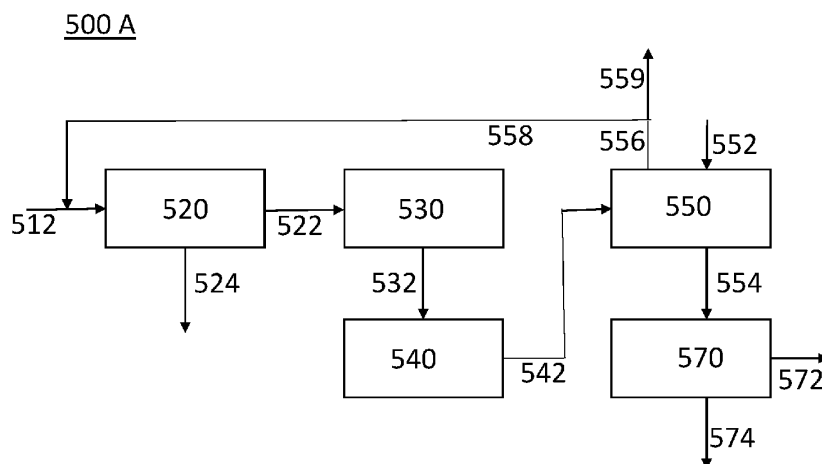


FIG.5A/6

(57) Abstract: The present invention depicts a method for one pot synthesis of dimethyl ether from syngas in a simple and economical manner. The process (500A, 500B, 600) has advantages of reducing the requirement of refrigeration and at the same time producing a ready to use product. The process (500A, 500B, 600) includes the steps of separating carbon dioxide from a first stream (512, 612) comprising syngas to produce a second stream (522, 622), reacting the second stream (522, 622) in the presence of a catalyst to produce a third stream (532, 632), cooling the third stream (532, 632) to a temperature in a range from 10° C to 40° C to produce a fourth stream (542, 642), and washing and conducting a phase separation of the fourth stream (542, 642) to produce a product comprising at least 10% by volume of dimethyl ether.

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