

ABSTRACT

The present application discloses a coke regulation and control reactor, and a device and method for preparing light olefin from an oxygen-containing compound. The coke regulation and control reactor includes a coke regulation and control reactor shell, a reaction zone I, and a coke controlled catalyst settling zone; a cross-sectional area at any position of the reaction zone I is less than a cross-sectional area at any position of the coke controlled catalyst settling zone; n baffles are arranged in a vertical direction in the reaction zone I; the n baffles divide the reaction zone I into m reaction zone I subzones; and a catalyst circulation hole is formed in each of the baffles, such that a catalyst flows in the reaction zone I in a preset manner. A catalyst charge in the coke regulation and control reactor of the present application can be automatically adjusted, and an average residence time of a catalyst in the coke regulation and control reactor can be controlled by changing process operating conditions, thereby controlling a coke content in the catalyst.

Fig. 1 for publication.