

ABSTRACT

Disclosed is a surface modification method of an aluminum oxide carrier. The method sequentially comprises the following steps: 1) dissolving soluble kazoe into deionized water and preparing it into a kazoe aqueous solution; 2) soaking an aluminum oxide carrier into the kazoe aqueous solution and performing vacuum drying; 3) placing the dried aluminum oxide carrier into a reaction vessel, adding silicon tetrachloride, adding a Grignard reagent dropwise, sealing the reaction vessel, heating, and reacting at constant temperature for 3 to 18 hours, wherein the volume ratio of the added silicon tetrachloride to the aluminum oxide carrier is controlled to be (0.5 - 5) to 1 and the heating temperature of the reaction vessel is controlled to be 160°C to 350°C; and 4) cooling the reaction vessel, filtering the aluminum oxide carrier, washing and performing vacuum drying again to obtain the surface modified aluminum oxide carrier. Practice shows that by adopting the method, a compact silicon nitride layer can be synthesized on the surface of the aluminum oxide carrier under mild reaction conditions and the performance of the aluminum oxide carrier can be improved in multiple aspects.