TITLE OF INVENTION: ORGANIC-INORGANIC AEROGEL COMPOSITES, METHODS AND USES THEREOF

ABSTRACT

Disclosed are methods of synthesizing organic-inorganic aerogel composites. The method comprises the steps of providing a cellulose component, derived from a plant based material, dispersed in an aqueous medium, adding a water soluble binder and a water soluble polymer to the aqueous medium to form a first mixture, forming a silica component, which is derived from a plant based silicate material, in situ when contacted with the first mixture for a predetermined time and condition to form a second mixture, gelling the second mixture and drying the second mixture to form an organic - inorganic aerogel. Also disclosed are organic-inorganic aerogel composites and their uses thereof. In particular, the organic-inorganic aerogel composites may have applications in thermal insulations, acoustic insulations and/or oil absorption.

[Fig. 8]