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(54) Title: HYDROGELS AND METHODS OF PREPARING THE SAME

(57) Abstract: The present disclosure refers to a method of preparing a hydrogel, comprising: (i) preparing a mixture of water-soluble polymer, inorganic acid, and radiation-reflecting inorganic particles; (ii) adding a crosslinking agent to the mixture to form a hydrogel precursor; (iii) freezing and thawing the hydrogel precursor thereby forming a hydrogel, wherein the hydrogel precursor comprises: about 5 wt% to about 30 wt% of water-soluble polymer; about 0.3 wt% to about 2.5 wt% of inorganic acid; about 0.05 wt% to about 0.5 wt% of crosslinking agent; and about 3 wt% to about 70 wt% of a radiation-reflecting inorganic particle, wherein the wt% is based on the total weight of the hydrogel precursor. The present disclosure also refers to a hydrogel precursor, and a hydrogel obtained by the method disclosed herein. The present disclosure also refers to a hydrogel comprising: about 5 wt% to about 30 wt% of water-soluble polymer; about 0.1 wt% to about 1.5 wt% of crosslinking agent; and about 3 wt% to about 70 wt% of a radiation-reflecting inorganic particle, wherein the wt% is based on the total weight of the hydrogel.



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