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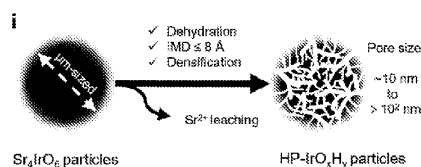


Fig. 7

(57) Abstract: The present invention relates to a catalyst consisting essentially of IrO_xH_y , wherein X and Y fulfill an equation $4 + Y = 2X$. The present invention also relates to a method of preparing a catalyst consisting essentially of IrO_xH_y , wherein X and Y fulfill an equation $4 + Y = 2X$, the method comprising: (i) immersing Sr_4IrO_6 in acid to form a mixture; and (ii) subjecting the mixture of step (i) to agitation for more than 12 hours. The present invention further relates to a catalyst obtained by the method as disclosed herein. The present invention also relates to a use of the catalyst as disclosed herein to produce hydrogen.