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Bimodal Porous Silica Prepared by Pore-filling of Silica Sol

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A silica with bimodal pore structures was prepared by a simple method of introducing silica sol into the controlled large pores of original silica gel. The pores of the bimodal pore silica were distributed into two distinct pore sizes that could be accurately controlled. The increased BET surface area and the decreased pore volume of the obtained bimodal pore supports, as compared to those of the original silica gel, indicated that the particles of silica sols formed small pores inside the original large pores of silica gel, resulting in formation of the bimodal pore structure silica support. Both pore sizes could be controlled, as the large pores originated from tail-made pellet while mesopore size was equal to the diameter of sol particles regardless of sol concentration during catalyst support preparation.

Keywords: <u>Bimodal pore structure</u>, <u>Silica</u>, <u>BET surface area</u>, <u>Pore volume</u>, <u>Pore size</u> <u>distribution</u>

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