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## Preparation of High-Surface-Area Zinc Oxide with Ordered Porosity, Different Pore Sizes, and Nanocrystalline Walls

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**Abstract:** Transition-metal-oxide materials possessing ordered mesoporosity have recently attracted significant research interest due to their numerous potential applications. Among them, ordered mesoporous zinc oxide (ZnO) is a very tempting material because of the importance of ZnO in heterogeneous catalysis. Here, first results of the preparation of ordered mesoporous

ZnO materials by using different templates are reported. Porous materials with high surface area, different pore sizes, and nanocrystalline ZnO walls

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were obtained. Furthermore, we compare the two fundamental templating techniques, involving liquid crystals or ordered mesoporous carbon materials as templates. Regarding the formation of mesoporous ZnO, it was evident that the hard-matter carbon template is superior.