Supporting Information for

Multidimensionally ordered mesoporous intermetallics: Frontier nanoarchitectonics for advanced catalysis

Hao Lv,[1,2] and Ben Liu[1,*]

[1]Key Laboratory of Green Chemistry and Technology of Ministry of Education, College of Chemistry, Sichuan University, Chengdu 610064, China. *Email: ben.liu@scu.edu.cn

[2]School of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

Table S1. Comparison of the three synthetic strategies for preparing MOMIs.

Synthetic Strategy	Advantages	Disadvanteges
Concurrent Template Synthetic Strategy	(1) highly ordered mesostructures and controllable porous structures (2) Universally to synthesize of various components MOMIs	(1)Multi-step synthesis and relatively complex peocesses (2) Limited templates structures
Self-Template Synthetic Strategy	(1) Simple synthesis steps (2) Expandable to core-shell structures	(1) Uncontroable pore structure (2) Limited compositions
Dealloying Synthetic Strategy	(1) Macroscale preparation (2) Simple synthesis steps	(1) Limited compositions (2) Sacrificial dealloyed metals

Table S2. Summary of different MOMIs for catalytic applications.

Synthetic Strategy	MOMIs	Catalytic applications
Concurrent Template Synthetic Strategy	Pt_1Sn_1 MOMIs; Pt_3Sn_1 MOMIs	3-nitrophenylacetylene (3-NPA) semi-hydrogenation
Concurrent Template Synthetic Strategy	High-entropy PtPdFeCoNi MOMIs; Ga_3Pt_5 MOMIs; Ga_1Pt_1 MOMIs	Electrochemical oxidation reduction reaction (ORR)
Concurrent Template Synthetic Strategy	Trimetallic PtZnCo MOMIs (PtZnSc; PtZnV; PtZnCr; PtZnMn; PtZnFe; PtZnNi; PtZnCu; PtZnGa MOMIs) PtP_2 MOMIs	Electrochemical hydrogen evolution reaction (HER)
Concurrent Template Synthetic Strategy	Pd_2B MOMIs	p-nitrophenol hydrogenation
Self-Template Synthetic Strategy	PdPb MOMIs	Electrochemical oxidation reduction reaction (ORR)
Self-Template Synthetic Strategy	$AuCu_3$@Au MOMIs	Electrochemical nitrate reduction reaction
Dealloying Synthetic Strategy	Co_7Mo_6 MOMIs	Electrochemical hydrogen evolution reaction (HER)