Supplementary Information

Latest Developments in the Synthesis of Metal-Organic Frameworks and their Hybrids for Hydrogen Storage

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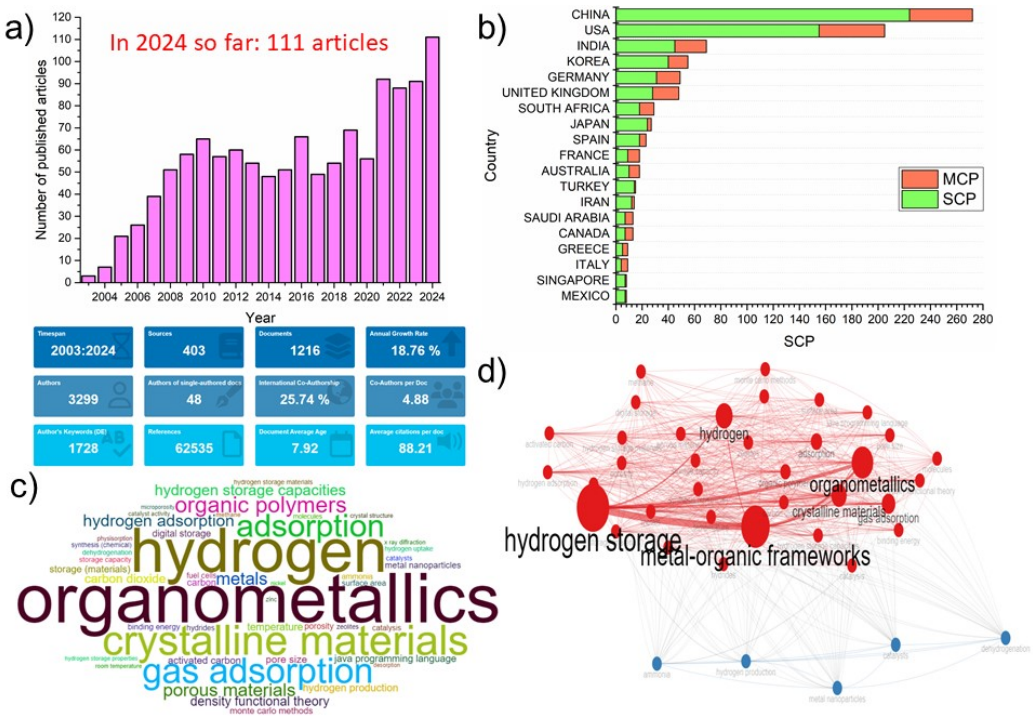

Figure S1: Bibliometric analysis on "metal-organic framework" AND "hydrogen storage": a) Number of articles published over the years (top figure) and general information (bottom figure); b) Corresponding author's country (MCP: inter-country, SCP: intra-country); c) WordCloud; d) co-occurrence network (number of nodes:30, clustering algorithm: walktrap, normalization: association, repulsion force: 0.1, remove isolated nodes: yes, minimum number of edges: 2).

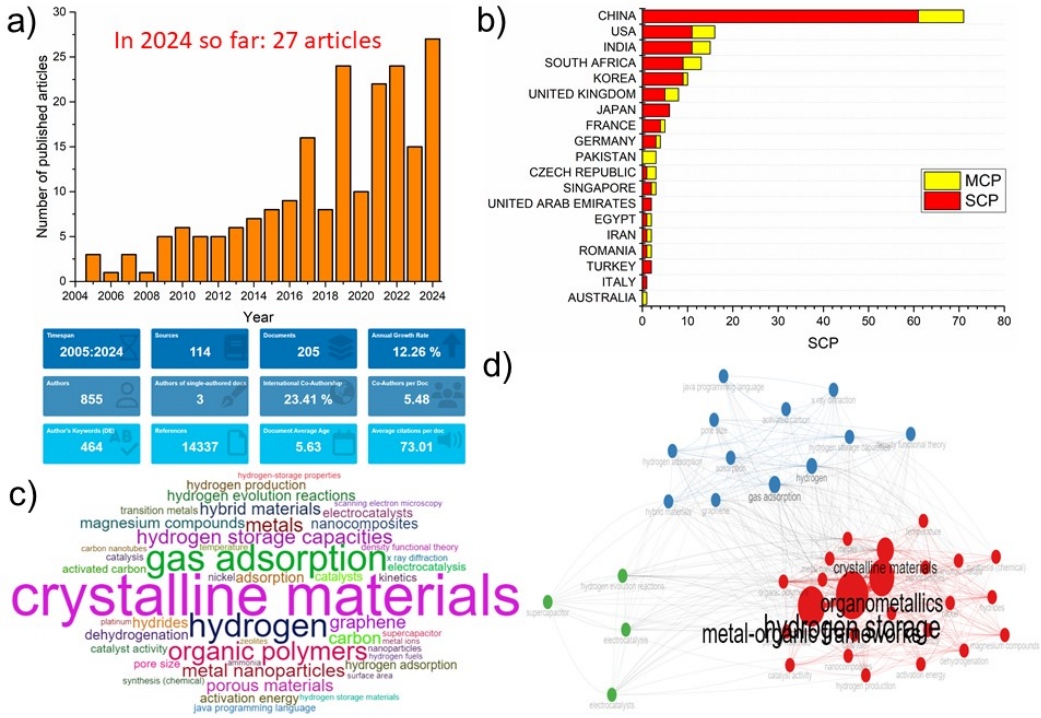

Figure S2: Bibliometric analysis on "metal-organic framework" AND "hydrogen storage" AND ("hybrid" OR "composite"): a) Number of articles published over the years (top figure) and general information (bottom figure); b) Corresponding author's country (MCP: inter-country, SCP: intra-country); c) WordCloud; d) co-occurrence network (number of nodes:25, clustering algorithm: walktrap, normalization: association, repulsion force: 0.1, remove isolated nodes: yes, minimum number of edges: 2).

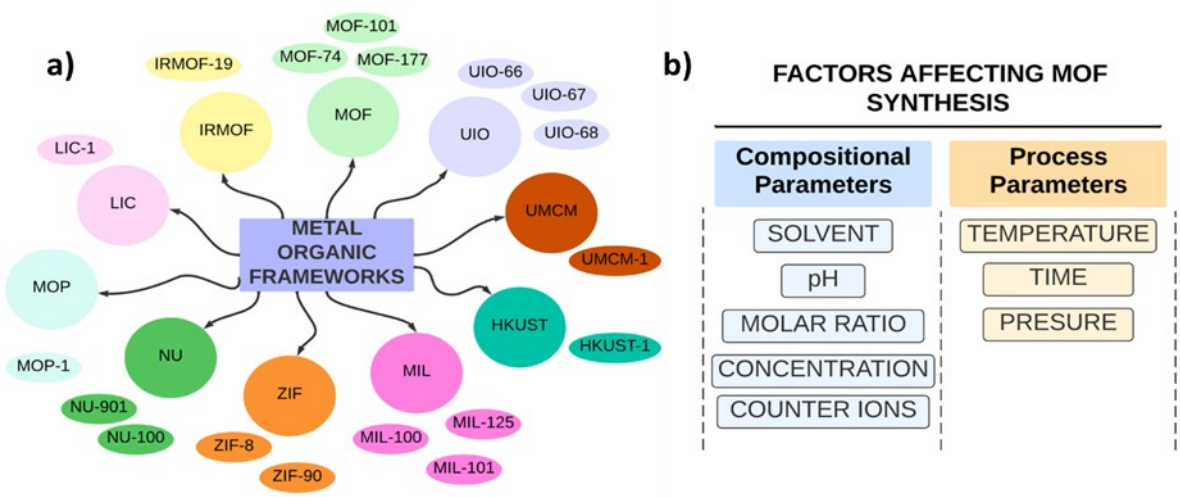

Figure S3:a) Scheme of the different MOF groups with typical examples; b) parameters influencing MOF formation (adapted from Ref **(1)**).

Table S1: General MOF groups and examples of with typical materials.

General name group	Designation	Formula	REF
Metal-Organic framework			
	MOF-74	$Zn_2(dobdc)$	**(2)**
	MOF-101	$Cu_2(Br\text{-}BDC)_2(H_2O)_2$	**(3)**
	MOF-177	$Zn_4O(BTB)_2$	**(4)**
IsoReticular Metal-Organic framework			
	IRMOF-1 (MOF-5)	$Zn_4O(BDC)_3$	**(5)**
Universitetet i Oslo			
	UIO-66	$Zr_6O_6(OH)_4(BDC)_6$	**(6)**
	UIO-67	$Zr_6O_6(OH)_4(BPDC)_6$	**(7)**
	UIO-68	$Zr_6O_6(OH)_4(TPDC)_6$	**(8)**
Northewestern University			
	NU-109	$Cu_3(L6^{-1}{}_{(109)})(H_2O)_3$	**(9)**
Materials of Institut Lavoiser			
	MIL-125	$Ti_8O_8(OH)_4(BDC)$	**(10)**
	MIL-100	$Fe_3O(H_2O)_2OH(BTC)_2$	**(11)**
	MIL-101	$Cr_3O(BDC)_3(H_2O)_2$	**(12)**
Hong Kong University of Science and Technology			
	HKUST-1 (IRMOF-19)	$Cu_3(BTC)_2$	**(13)**
Zeolite Imidazolate Framework			
	ZIF-8	$Zn(MIM)_2$	**(14)**
Leiden Institute of Chemistry			
	LIC-1	$Gd_2(N\text{-}BDC)_3(DMF)_4$	**(15)**
Metal-Organic Polyhedra			
	MOP-1	$Cu_{24}(1,3\text{-}BDC)_{24}(DMF)_{14}(H_2O)_{60}(DMF)_6(C_2H_5OH)_6$	**(16)**
University of Michigan Crystalline Material			
	UMCM-1	$Zn_4O(BTB)_3(BDC)$	**(17)**

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