

The 2025 Nobel Prize in Chemistry

MOF Materials

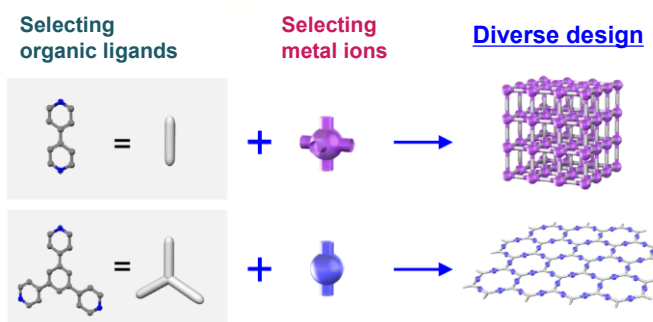
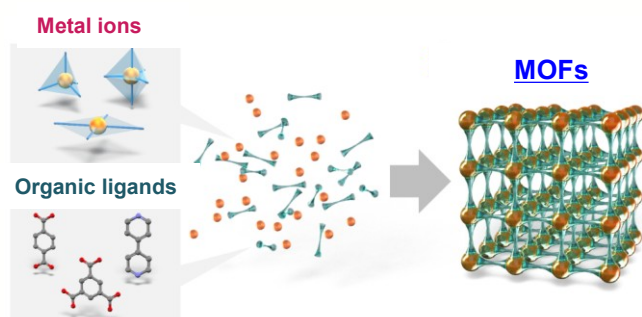
In 2025, three researchers, including Professor Susumu Kitagawa from Kyoto University, were awarded the Nobel Prize in Chemistry for their contributions to the development of Metal-Organic Frameworks (MOFs). MOFs feature nanoscale-controlled pores that enable the selective storage, separation, and transformation of specific molecules. Thanks to these unique properties, research applications have advanced in areas such as gas adsorption (e.g., CO₂ capture) and drug delivery systems containing active ingredients.



Here, we proudly present MOFs from Atomis, a Japanese startup specializing in next-generation porous materials including MOFs. Professor Kitagawa serves as a technical advisor to Atomis, which now has its own factory capable of producing **20 tons of MOF annually**.

About MOFs

MOFs are a general term for materials characterized by nanoscale-controlled porosity, where metal ions and organic ligands form a continuous, regularly arranged 3D structure. The metal ions create nanosized cavities by cross-linking with organic ligands, resulting in a crystalline polymer structure with a high specific surface area. One of the key features of MOFs is that **its porous space can be freely designed by selecting different metal ions and organic ligands**, allowing functions to be flexibly tailored to suit specific applications.



Comparison with other porous materials

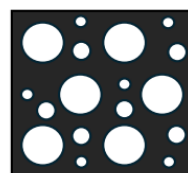
Using MOFs is especially effective for targeting specific adsorption because it possesses uniformly sized pores ranging from approximately 0.1 to 10 nanometers.

<Physical properties>

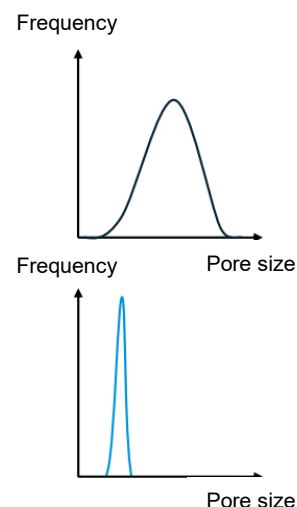
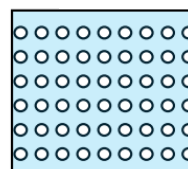
	Activated Carbon	Zeolite	MOFs
Pore size distribution	Large	Small	Small
Pore size (nm)	10 - 200	0.2 - 10	0.4 - 6
Specific surface area (m ² /g)	500 - 2,500	100 - 700	Max 7,140

<Pore image>

Activated Carbons



MOFs



Product List

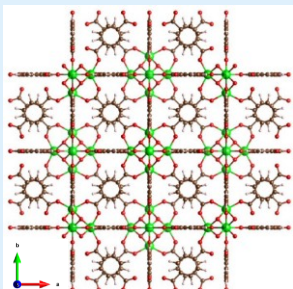
Code No.	Product Name	Metals/Organic ligands	Volume	CAS RN®
633-61271	ZIF-8	Zinc / 2-Methylimidazole	5 g	59061-53-9
639-61273	ZIF-8	Zinc / 2-Methylimidazole	10 g	59061-53-9
630-61281	UiO-66	Zirconium / 1,4-Dicarboxybenzene	2 g	1072413-89-8
636-61283	UiO-66	Zirconium / 1,4-Dicarboxybenzene	5 g	1072413-89-8
633-61293	ZIF-67	Cobalt / 2-Methylimidazole	2 g	46201-07-4
637-61291	ZIF-67	Cobalt / 2-Methylimidazole	5 g	46201-07-4
630-61301	MOF-74(Ni)	Nickel / 2,5-Dihydroxyterephthalic acid	1 g	1801336-44-6
636-61303	MOF-74(Ni)	Nickel / 2,5-Dihydroxyterephthalic acid	2 g	1801336-44-6
637-61311	MOF-74(Co)	Cobalt / 2,5-Dihydroxyterephthalic acid	1 g	-
633-61313	MOF-74(Co)	Cobalt / 2,5-Dihydroxyterephthalic acid	2 g	-
634-61321	MOF-74(Zn)	Zinc / 2,5-Dihydroxyterephthalic acid	1 g	-
630-61323	MOF-74(Zn)	Zinc / 2,5-Dihydroxyterephthalic acid	2 g	-
631-61353	MOF-74(Mg)	Magnesium / 2,5-Dihydroxyterephthalic acid	1 g	1565828-97-8
635-61351	MOF-74(Mg)	Magnesium / 2,5-Dihydroxyterephthalic acid	2 g	1565828-97-8

※Since the expiration period is six months, we recommend using it as soon as possible.

Product Details - Example

We also provide detailed information about the other products on our website.



Code No.	630-61281 / 636-61283		
MOFs	UiO-66		
Structure		Physical properties	- BET specific surface area: > 1,000 m²/g - Pore limiting diameter: 0.4 nm - Largest cavity diameter: 0.9 nm
		Applications	- High Durability - PFAS removal

Atomis Inc. can also offer custom products tailored to your specific requirements, **including next-generation porous materials other than MOFs.**

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use. Please visit each region's website for product information. This leaflet may contain products that cannot be exported to your country due to regulations. Bulk quote requests for some products are welcomed. Please contact us.

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