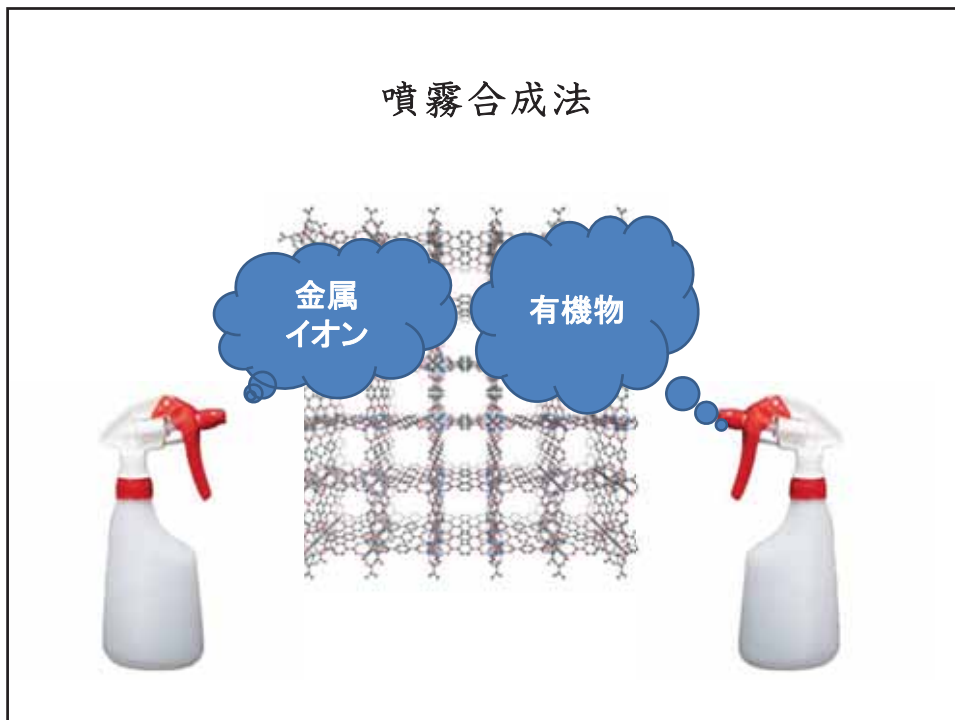
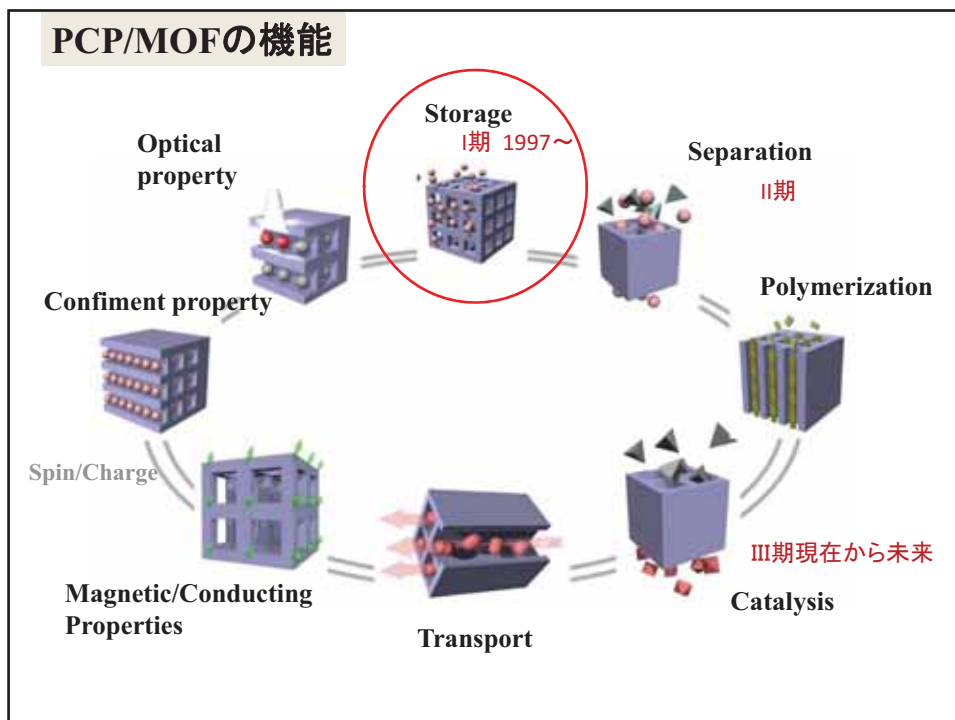



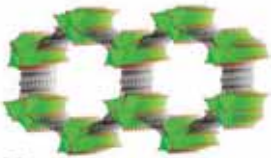
## 噴霧合成法





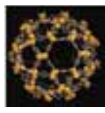
 **CO<sub>2</sub> Storage - High Affinity at 298 K**

▷ **19.8 wt% 0.1 atm**  
Heat of Adsorption 47 kJ/mol  
[Mg(dobdc)]<sub>n</sub> : MgMOF-74



A. J. Matzger *et al.*,  
*J. Am. Chem. Soc.*,  
2005, 127, 12122  
dobdc = 2,5-dioxobis(4,4'-dicarboxylate)

▷ **63.7 wt% 5 bar**  
[Cr<sub>3</sub>F(H<sub>2</sub>O)<sub>2</sub>O(bdc)<sub>2</sub>]<sub>n</sub> : MIL-101

 P. L. Llewellyn, G. Férey *et al.*,  
*Langmuir*, **2008**, 24, 7245  
bdc = 1,4-benzenedicarboxylate

▷ **70.6 wt% 50 bar**

1gの試料を手にすると

- ・0.7 gのCO<sub>2</sub>(これは360 mL)
- ・空気(0.04 %がCO<sub>2</sub>)では900 L

bbc = 4,4',4''-(benzene-1,3,5-triyl-tris(benzene-4,1-diyl))tribenzoate

methane



### Natural Gas Storage in Metal-organic Frameworks

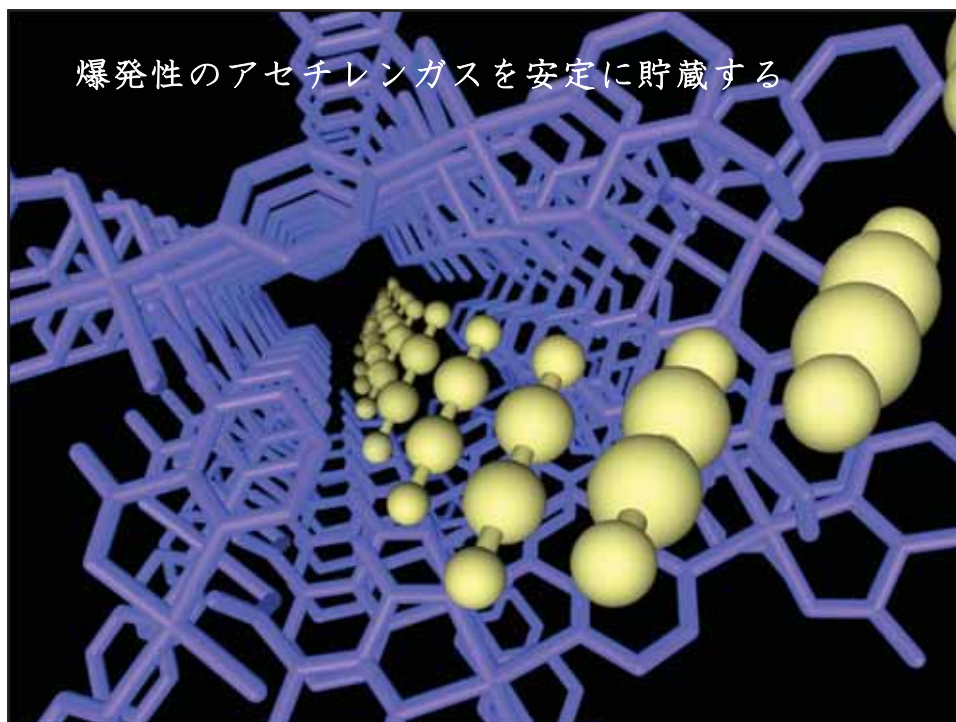


BASFの企業活動を例に  
(本PPT資料は発表のみ許可を受けた。印刷は不許可)

U. Müller, L. Arnold, M. Gaab, S. Marx, S. Maurer  
(Process Research and Chemical Engineering)  
S. McKeon, J. Lynch, R. Gummaraju, M. SantaMaria, K. Wilson  
(CCN Energy storage materials)

**BASF**  
The Chemical Company

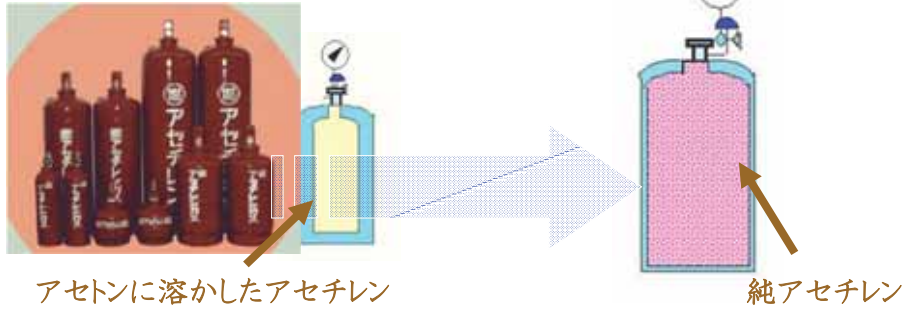
LEONARDO INTERIM



## アセチレン貯蔵

従来容器 鋼鉄製 (3.2 mm 厚)  
- 41 L 容器で重量 50 kg ( 2.3 MPa)

アルミニウム容器 (1.2 mm 厚)  
6.5 kg (< 0.2 MPa)



## Porous Properties

