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(54) **METHODS FOR ASSOCIATING OR DISSOCIATING GUEST MATERIALS WITH A METAL ORGANIC FRAMEWORK, SYSTEMS FOR ASSOCIATING OR DISSOCIATING GUEST MATERIALS WITH A SERIES OF METAL ORGANIC FRAMEWORKS, AND GAS SEPARATION ASSEMBLIES**

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(52) **U.S. Cl.**  
USPC ..... **95/139**; 95/148; 96/121

(58) **Field of Classification Search** ..... 95/139, 95/148; 96/121, 143; 502/526; 423/230  
See application file for complete search history.

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(57) **ABSTRACT**

Methods for releasing associated guest materials from a metal organic framework are provided. Methods for associating guest materials with a metal organic framework are also provided. Methods are provided for selectively associating or dissociating guest materials with a metal organic framework. Systems for associating or dissociating guest materials within a series of metal organic frameworks are provided. Gas separation assemblies are provided.

**32 Claims, 11 Drawing Sheets**

