

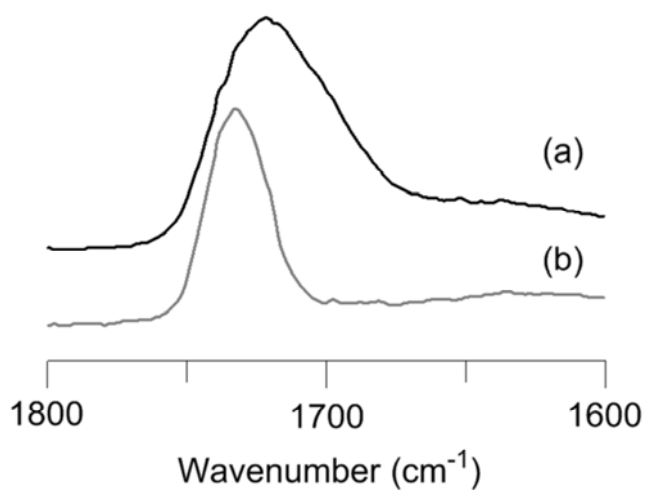
## **Supporting Information for:**

# Macroporous Silicagel Substrate for Stereoregular Template Polymerization of Methacrylic Acid Using Stereocomplex Assembled Thin Film

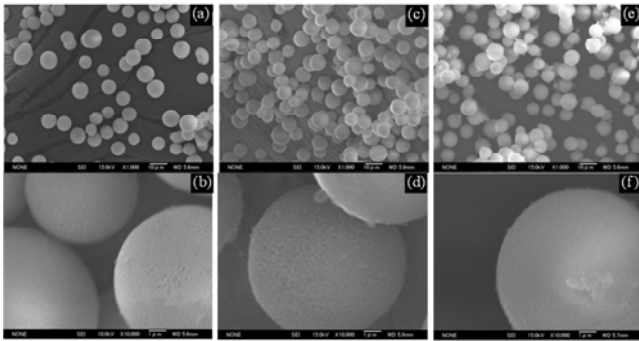
Hiroharu AJIRO,<sup>1,2</sup> Daisuke KAMEI,<sup>1</sup> and Mitsuru AKASHI<sup>1,2†</sup>

<sup>1</sup>*Department of Applied Chemistry, Graduate School of Engineering, Osaka University,  
2-1 Yamada-oka, Osaka 565-0871, Japan*

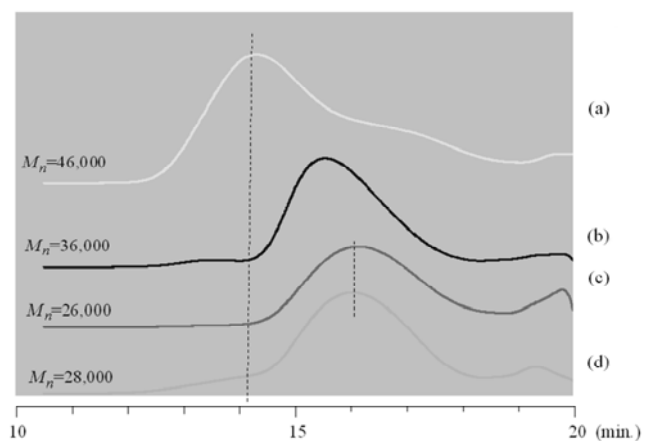
<sup>2</sup>*The Center for Advanced Medical Engineering and Informatics, Osaka University, 2-2  
Yamada-oka, Suita, Osaka, 565-0871, Japan*



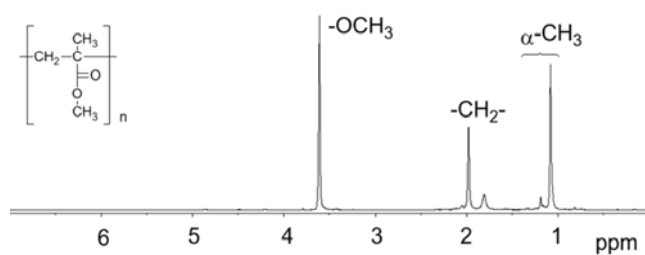
**Figure S1.** ATR-IR spectra of thin film on silicagel. (a) *it*-PMMA/*st*-PMAA stereocomplex. (b) porous *it*-PMMA thin film obtained by *st*-PMAA extraction.



**Figure S2.** SEM images of silica gel, after 5 cycle (a) and (b), 10 cycle (c) and (d), and 20 cycle (e) and (f) for alternative immersion to *it*-PMMA in acetonitrile and *st*-PMAA in water/acetonitrile (6/4, v/v) solutions.



**Figure S3.** GPC traces of PMMAs derived from PMAAs, obtained in solution during template polymerization (a), used for preparation of template syndiotactic PMAA (b), the firstly extracted PMMA before template polymerization (c), and obtained on silica gel during template polymerization. (in THF, 0.6 mL/min, PMMA standard, 40 °C with Tosoh TSKgel GMHXL)



**Figure S4.** <sup>1</sup>H NMR spectrum of synthesized poly(methacrylic acid) on *it*-PMMA film, whose stereocomplex was prepared in acetonitrile/water = 2/8, after methylation by diazomethane (in nitrobenzene-*d*, 110 °C).