

Supporting Information

Perfluorinated Gelators for Solidifying Fluorous Solvents :

Effects of Chain Length and Molecular Chirality

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1. DSC data of gelators.
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1. DSC data of gerators:

The results of differential scanning calorimetry for *SS-CF4*, *SS-CF5*, *SS-CF6*, *SS-CF9* and *SS-CF10*. DSC measurements were carried out with a DSC 3100SA (Buruker). Heating runs were performed at a scan rate of 5 °Cmin⁻¹.

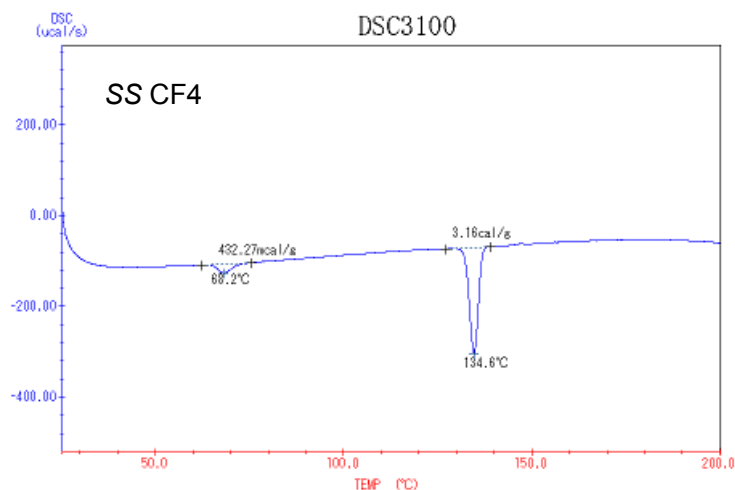


Fig. S1-1. The results of DSC for *SS-CF4*.

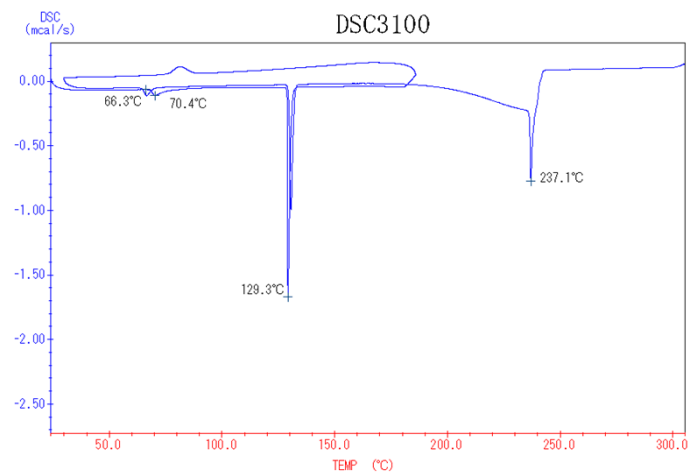


Fig. S1-2. The results of DSC for *SS-CF4* (Almost the same peaks were found in 1st and 2nd Cycle. Decomposition at 237 °C)

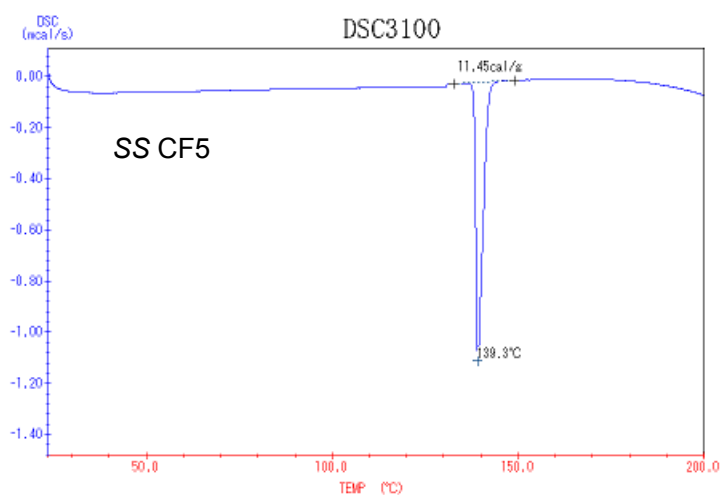


Fig. S1-3. The results of DSC for SS-CF5.

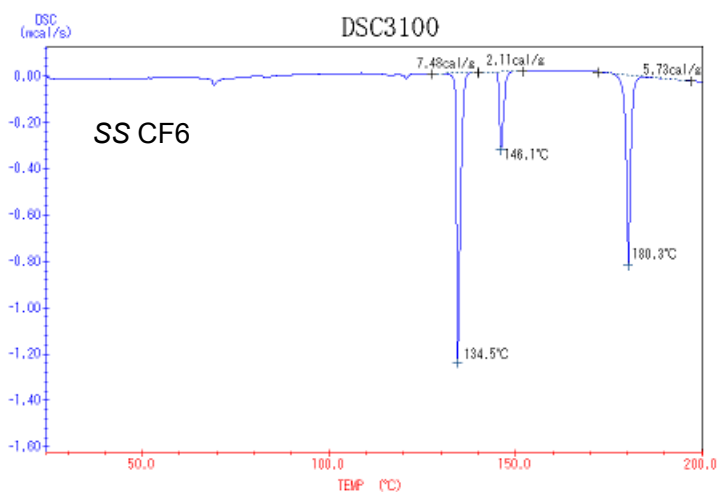


Fig. S1-4. The results of DSC for SS-CF6.

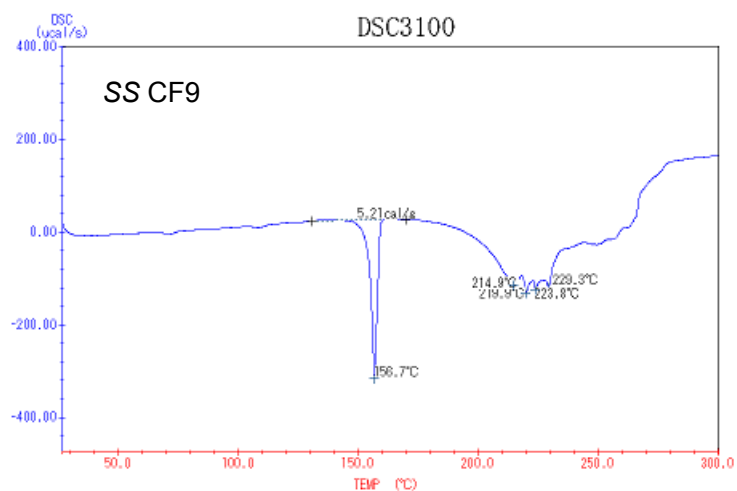


Fig. S1-5. The results of DSC for SS-CF9.

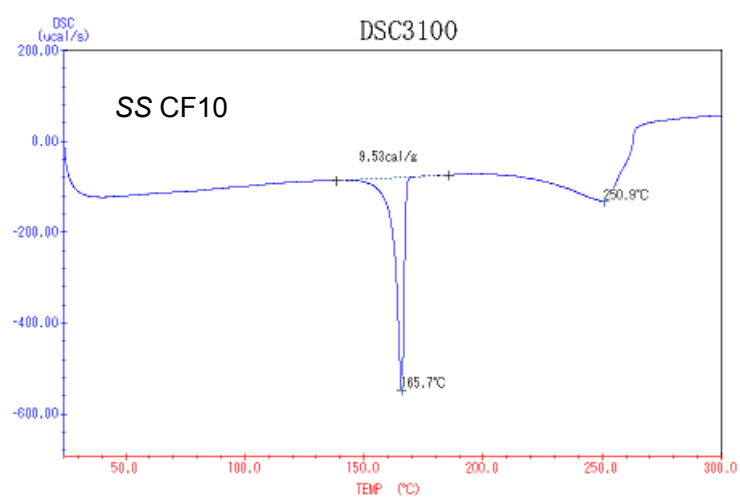


Fig. S1-6. The results of DSC for *SS-CF10*.

2. SEM images of gelators.

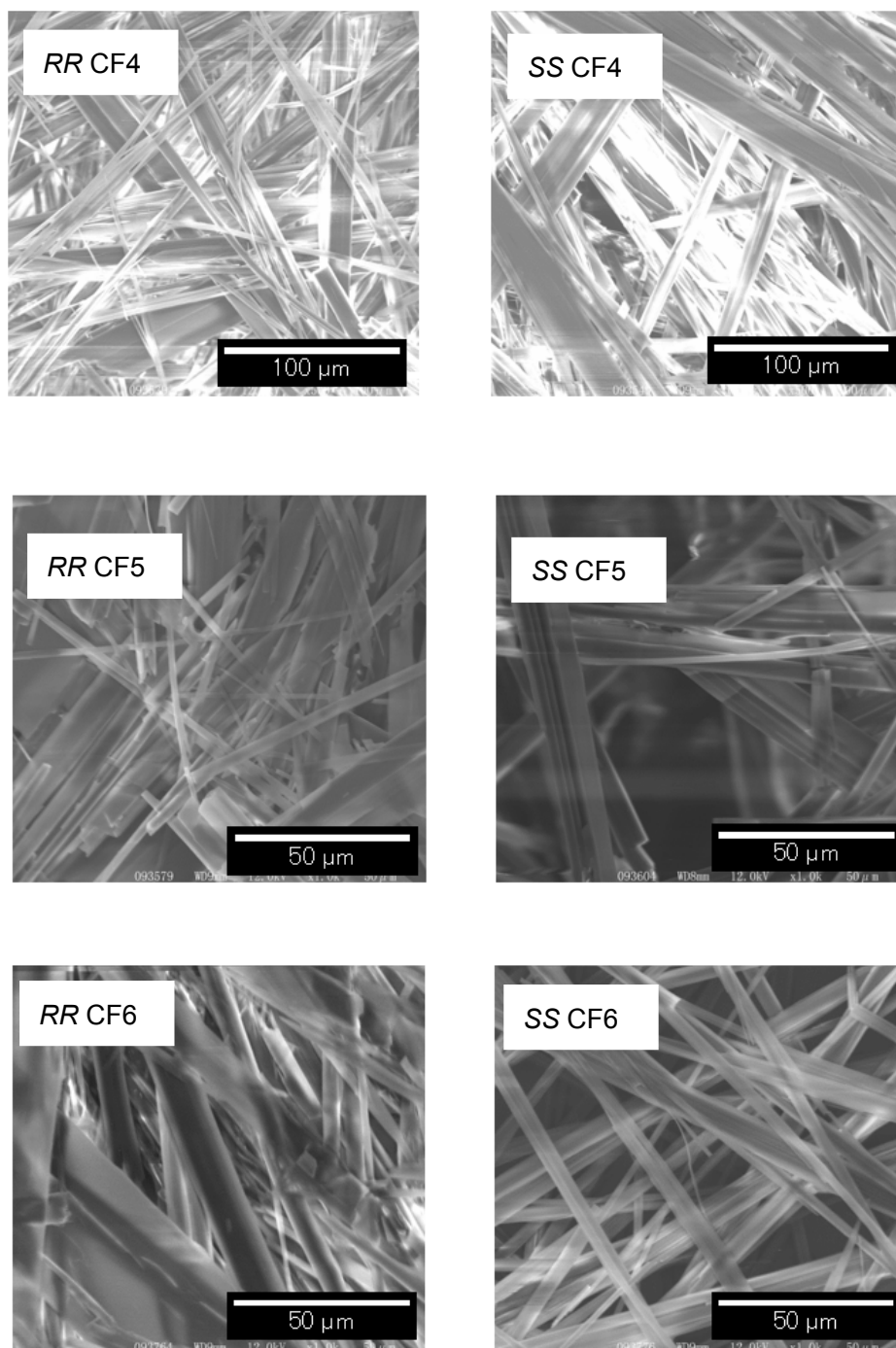


Fig. S2 The SEM images of xerogels from C_6F_6 (CF4, CF5, CF6).

3. Crystallographic data from single crystal X-ray analyses

Table S3. Crystallographic data of *RR*-CF4 and racemic- CF4.

Compound reference	<i>RR</i> -C4F	racemi-C4F
Chemical formula	C14H12F14N2O2	C14H12F14N2O2
Formula Mass	506.26	506.24
Crystal system	Monoclinic	Orthorhombic
<i>a</i> /Å	5.0662(7)	18.5495(14)
<i>b</i> /Å	16.484(2)	21.0121(16)
<i>c</i> /Å	10.9207(14)	9.5700(7)
α /°	90.00	90.00
β /°	100.049	90.00
γ /°	90.00	90.00
Unit cell volume/Å ³	898.0(2)	3730.0(5)
Temperature/K	93(2)	93.15
Space group	<i>P</i> 1 21 1	<i>P</i> c c n
No. of formula units per unit cell, <i>Z</i>	2	8
Radiation type	MoK α	MoK α
Absorption coefficient, μ /mm ⁻¹	0.221	0.213
No. of reflections measured	4732	27365
No. of independent reflections	2671	5725
<i>R</i> _{int}	0.0267	0.0331
Final <i>R</i> ₁ values (<i>I</i> > 2 σ (<i>I</i>))	0.0357	0.0418
Final w <i>R</i> (<i>F</i> ²) values (<i>I</i> > 2 σ (<i>I</i>))	0.0913	0.1362
Final <i>R</i> ₁ values (all data)	0.0378	0.0623
Final w <i>R</i> (<i>F</i> ²) values (all data)	0.0930	0.1531
Goodness of fit on <i>F</i> ²	1.042	1.0572
CCDC number	1022936	1040719

4. Sol-gel transition temperature.

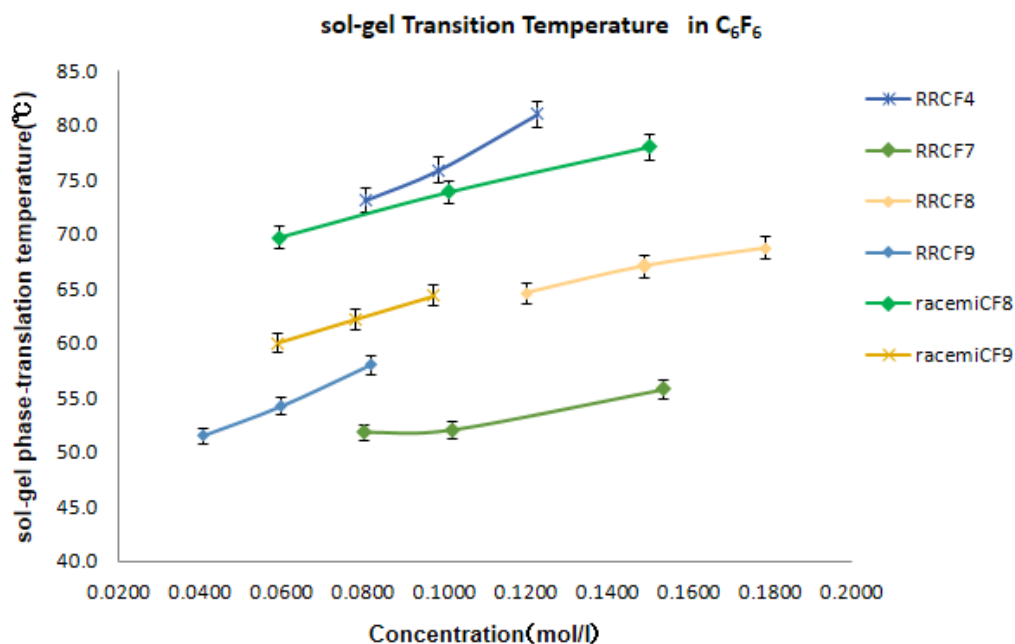


Fig. S4-1 Sol-gel transition temperature of *RR*-CF4, *RR*-CF7, *RR*-CF8, *RR*-CF9, racemic-CF8, racemic-CF9 in C_6F_6 .

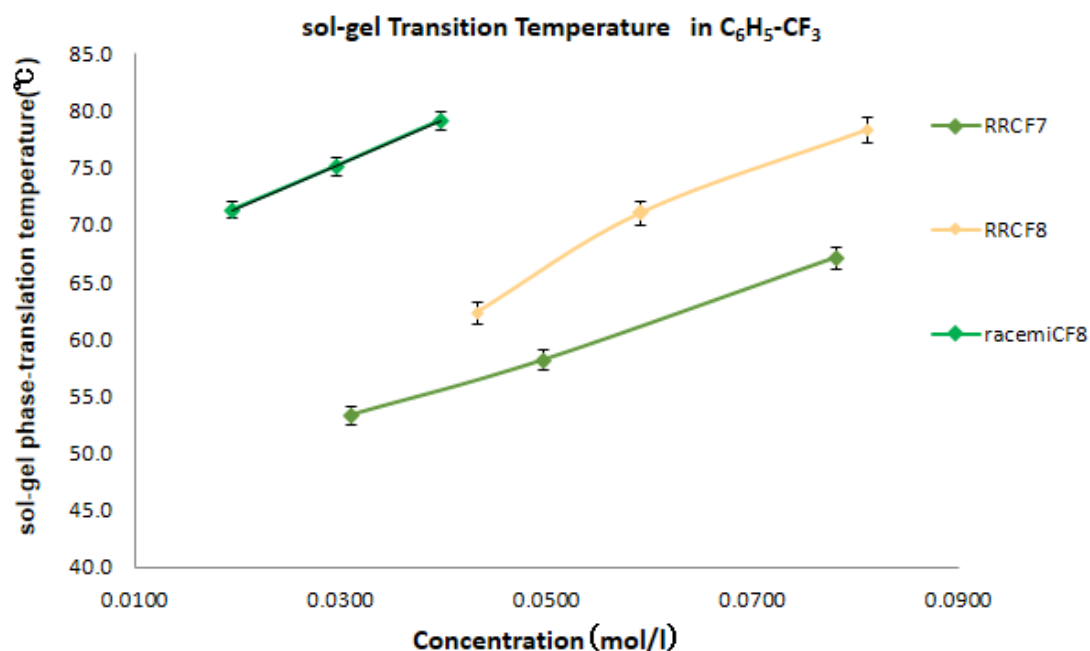


Fig. S4-2 Sol-gel transition temperature of *RR*-CF7, *RR*-CF8, racemic-CF8 in $C_6H_5-CF_3$.

5. The effect of optical purity on sol-gel temperature (CF8).

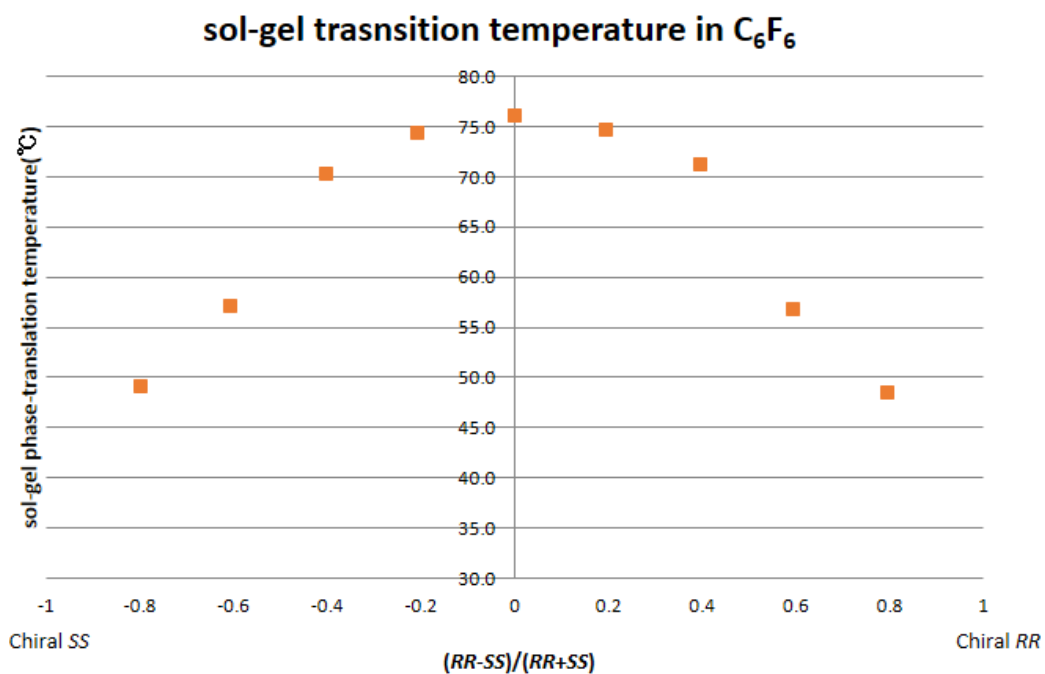


Fig. S5 The dependence of sol-gel transition temperature on the enantiomeric excess of **CF8** in C₆F₆.

6. Photographs of the inversion tests of the gels.

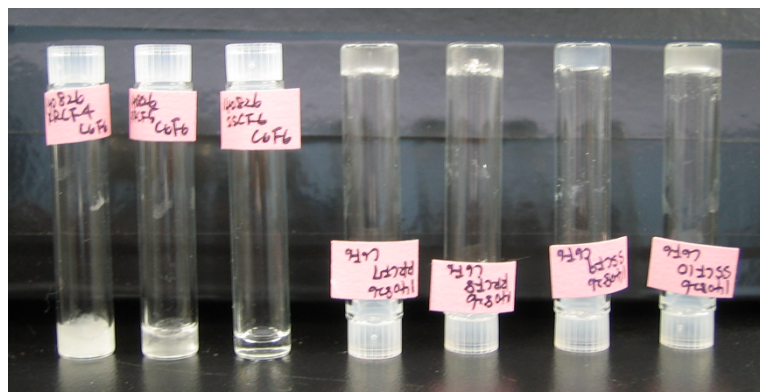


Fig. 6-1 Photographs of *RR*-**CFn** in C_6F_6 . ($n = 4$ to 10 from left to right).

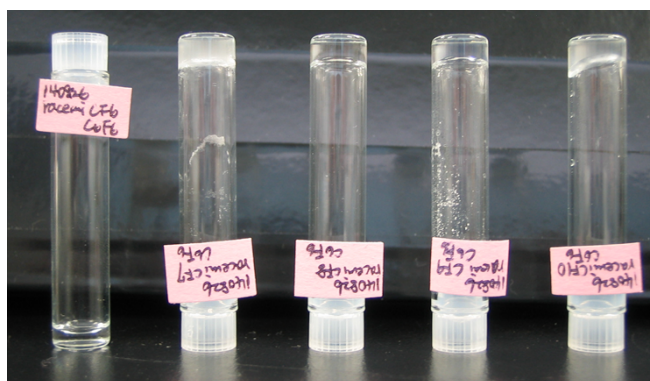


Fig. 6-2 Photographs of racemic-**CFn** in C_6F_6 . ($n = 6$ to 10 from left to right).

7. HPLC Chart of gelators.

The optical purity of the gelators were determined by chiral HPLC on a Daicel AD-H column. (*n*-hexane/isopropanol = 96/4, flow rate = 0.2 mL/min)

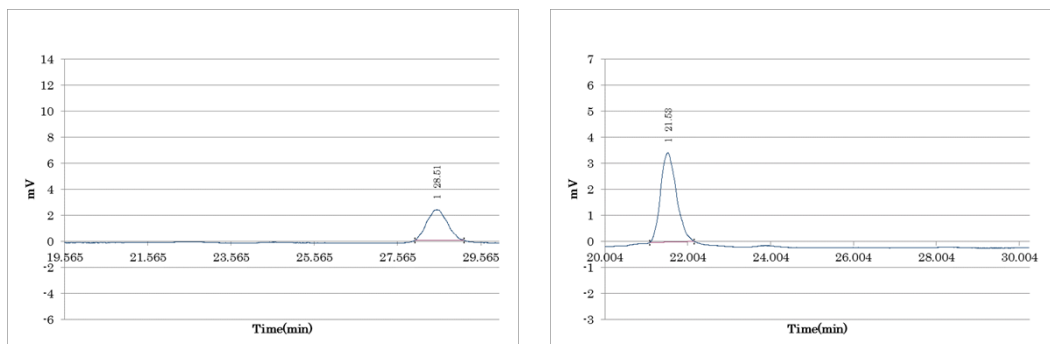


Fig. 7-1 HPLC chart of *RR*-CF4 (left) and *SS*-CF4 (right).

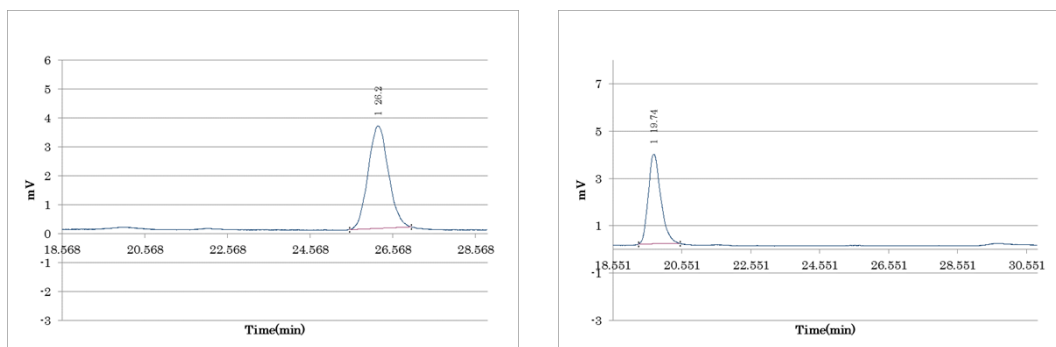


Fig. 7-2 HPLC chart of *RR*-CF5 (left) and *SS*-CF5 (right).

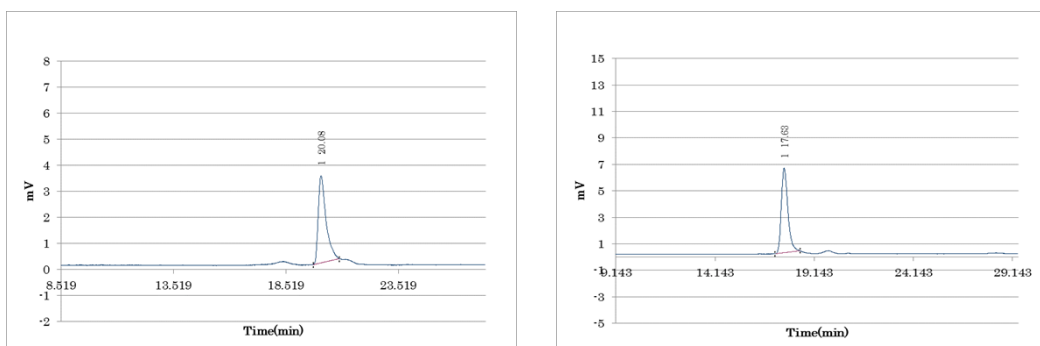


Fig. 7-3 HPLC chart of *RR*-CF6 (left) and *SS*-CF6 (right).

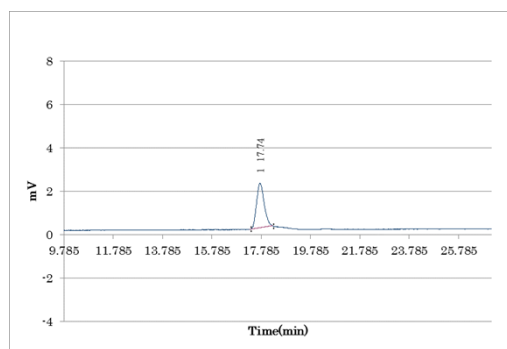
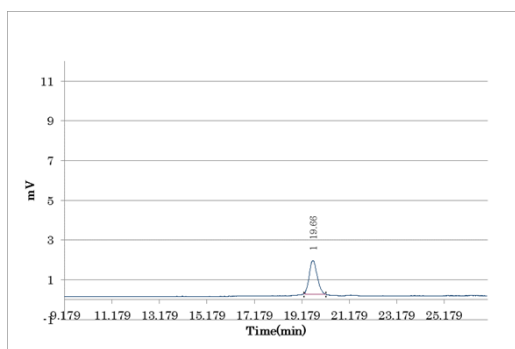


Fig. 7-4 HPLC chart of *RR*-CF7 (left) and *SS*-CF7 (right).

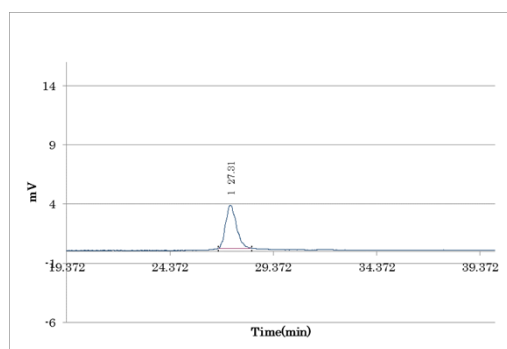
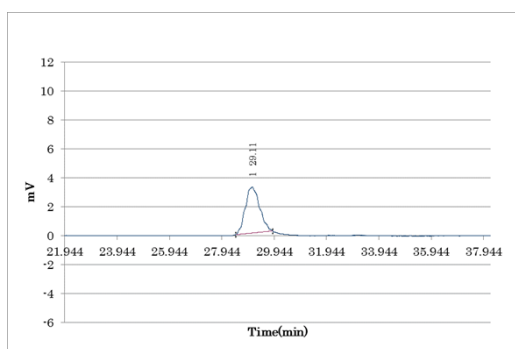


Fig. 7-5 HPLC chart of *RR*-CF8 (left) and *SS*-CF8 (right).

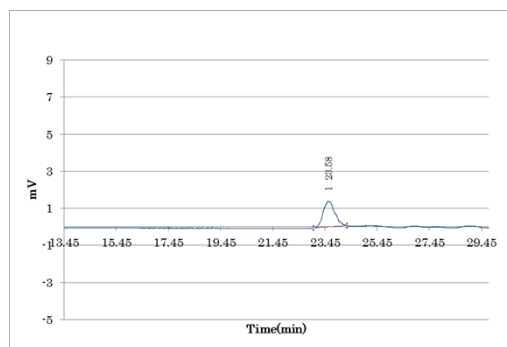
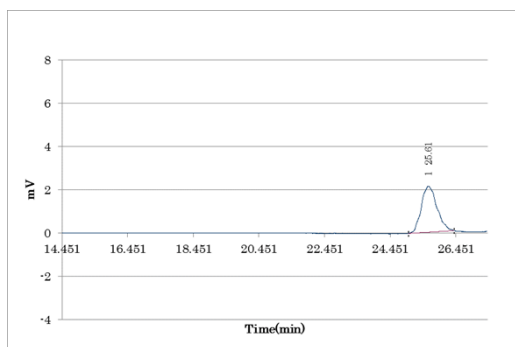


Fig. 7-6 HPLC chart of *RR*-CF9 (left) and *SS*-CF9 (right).

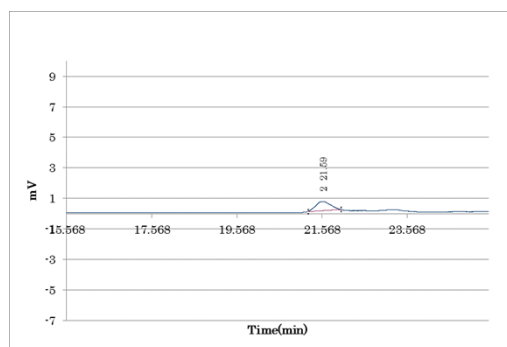
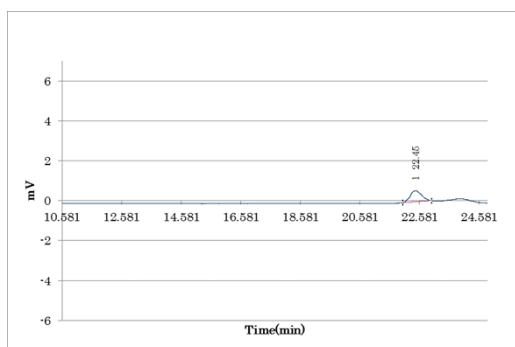


Fig. 7-7 HPLC chart of *RR*-CF10 (left) and *SS*-CF10 (right).