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Gel Strength of Ionic Liquid Gels by Low Molecule Weight Gelator with Fluoro-substituent at Both Ends of Molecules

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In our previous works, it was found that low molecular weight compounds having fluoroalkyl group formed fibrous assembly, which formed gel with various organic solvents and ionic liquids[1)]. However, relationship between molecular structures and gelation ability has not been elucidated.

In this work, compounds **1** and **2** (Fig. 1) were synthesized and the gelation abilities and gel strength were examined in some organic solvents and ionic liquids.

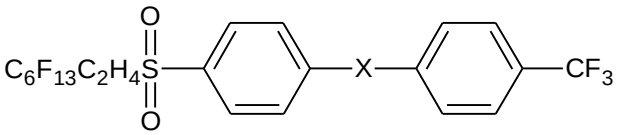

Fig. 1 Chemical structures of compounds **1** and **2**

Fig. 2 shows sol-gel transition temperatures of [BMIM][TFSA] gels formed by compound **1** or **2**. For compound **1**, the sol-gel transition temperature of 5wt% [BMIM][TFSA] gel was 108°C and that for compound **2** was 58°C.

In this presentation, sol-gel transition temperature and critical gel concentration will be reported. In addition, result of gel strength measurement of ionic liquid gels formed by compounds **1** and **2** will be discussed.

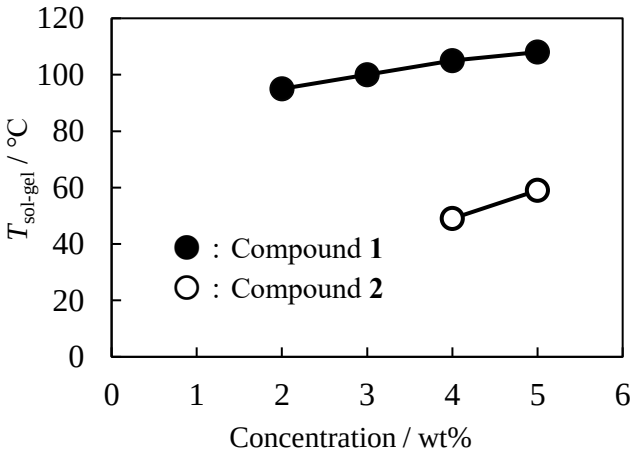

Fig. 2 Sol-gel transition temperatures of [BMIM][TFSA] gels

[Reference]

1) B. Cao, *et. al*., *Journal of Fluorine Chemistry*, ***226***, 109348 (2019).