

**Supporting Information for**

**Immobilization of Ionic Liquids in Layered Compounds *via*  
Mechanochemical Intercalation**

Hang Hu,<sup>†,‡</sup> Jarett C. Martin,<sup>†</sup> Min Xiao,<sup>‡</sup> Cara S. Southworth,<sup>†</sup> Yuezhong Meng,<sup>‡,\*</sup> Luyi Sun<sup>†,\*</sup>

<sup>†</sup>*Department of Chemistry and Biochemistry & Materials Science and Engineering Program,*

*Texas State University–San Marcos, San Marcos, TX 78666*

<sup>‡</sup>*The Key Laboratory of Low-carbon Chemistry & Energy Conservation of Guangdong*

*Province, State Key Laboratory of Optoelectronic Materials and Technologies, School of*

*Physics and Engineering, Sun Yat-sen University, Guangzhou 510275, PR China*

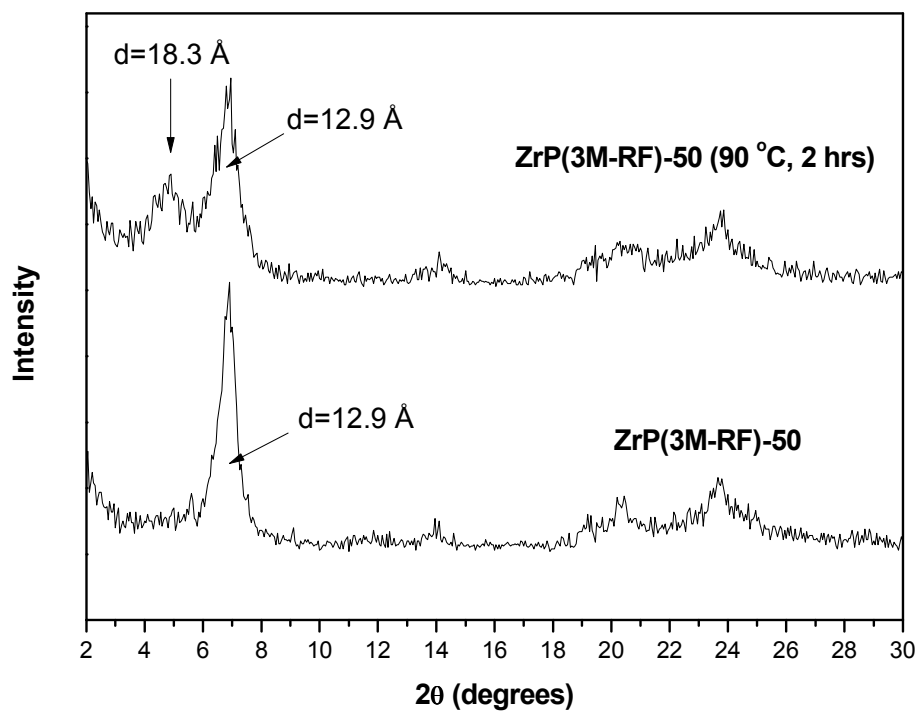


Figure S1. XRD patterns of ZrP(3M-RF)-50 before and after heat treatment (90 °C, 2 hours in an oven).

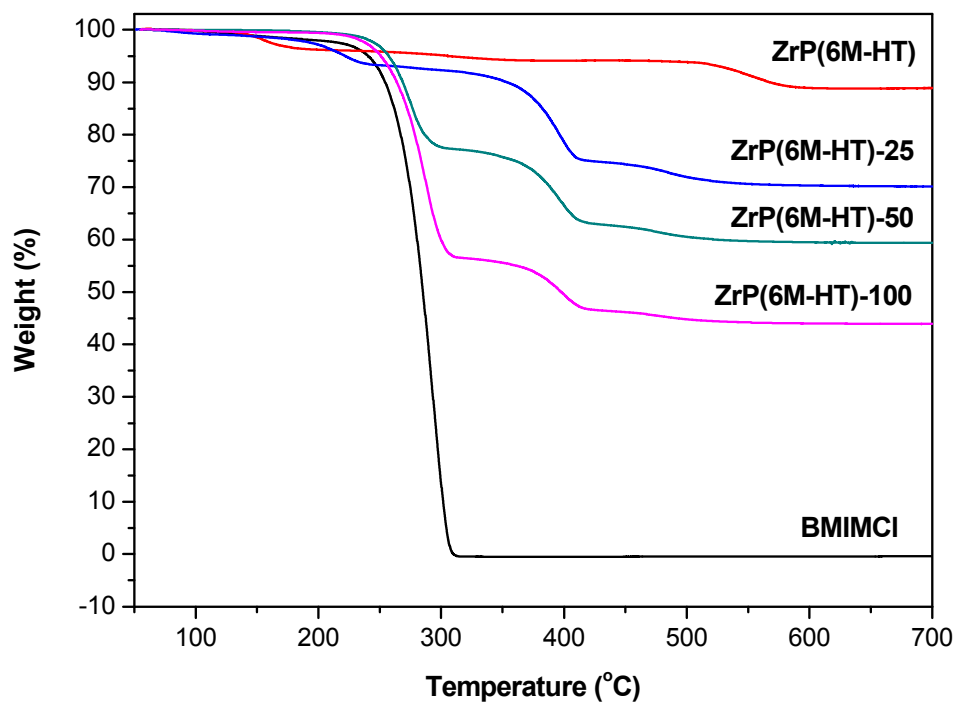


Figure S2. TGA thermograms of pristine ZrP(6M-HT), BMIMCl, and ZrP(6M-HT)/BMIMCl intercalation compounds with various BMIMCl loadings.

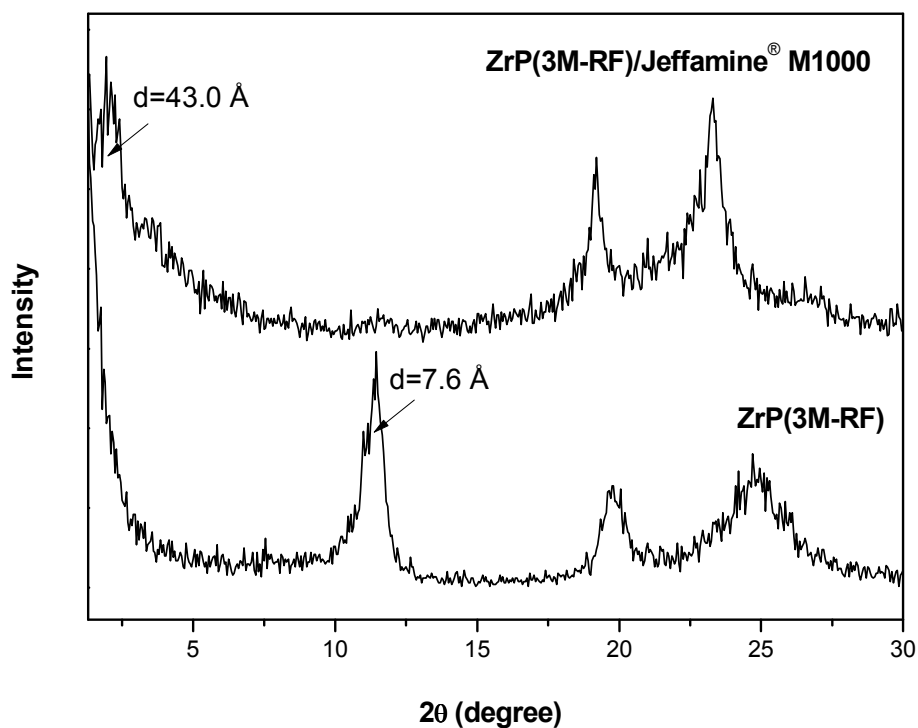


Figure S3. XRD patterns of ZrP(3M-RF) and ZrP(3M-RF)/Jeffamine<sup>®</sup> M1000 intercalation compound prepared via mechanochemical reaction (the molar ratio between ZrP(3M-RF) and Jeffamine<sup>®</sup> M1000 is 1:2).

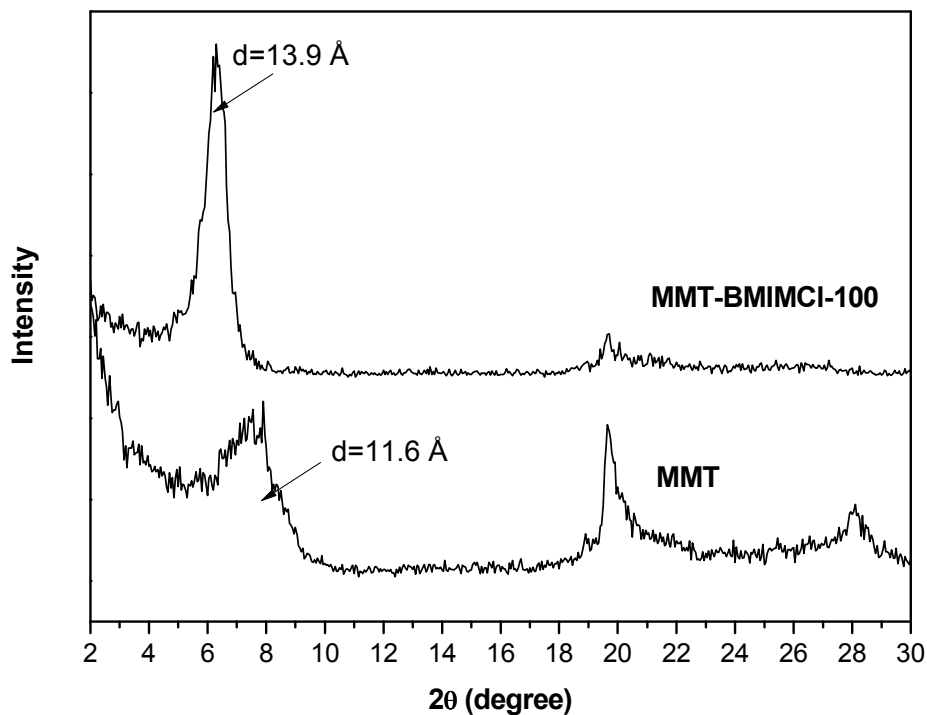


Figure S4. XRD patterns of montmorillonite (MMT) and MMT-BMIMCl-100 intercalation compound prepared via mechanochemical reaction. The MMT sample used here is a purified Na<sup>+</sup> montmorillonite (Cloisite<sup>®</sup> Na<sup>+</sup>, cation exchange capacity 92.6 mequiv/100 g) obtained from Southern Clay Products (Gonzales, Texas).