## **Electronic Supplementary Information**

Ni(II) tetraphosphine complexes as catalysts/initiators in the ring opening polymerization of  $\varepsilon$ -caprolactone

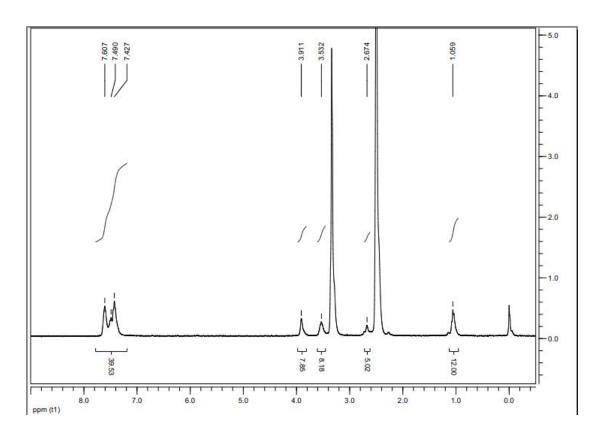
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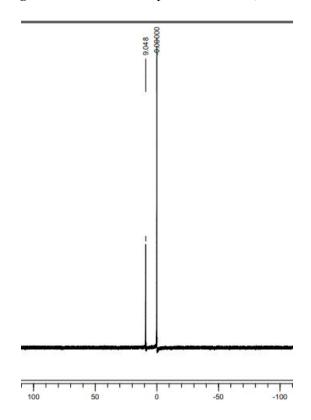
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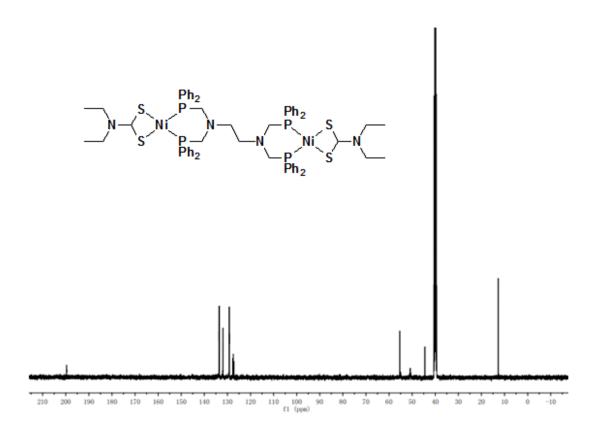
<b>Figure S1.</b> The ${}^{1}$ H NMR spectrum of <b>1</b> in $d_6$ -DMSOS3
<b>Figure S2.</b> The $^{31}$ P NMR spectrum of <b>1</b> in $d_6$ -DMSOS3
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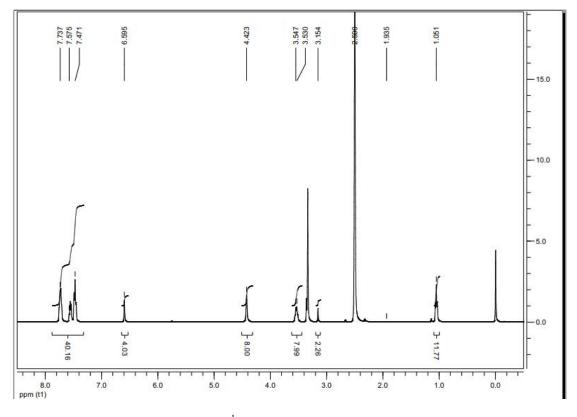
**Figure S1.** The  ${}^{1}$ H NMR spectrum of **1** in  $d_{6}$ -DMSO.



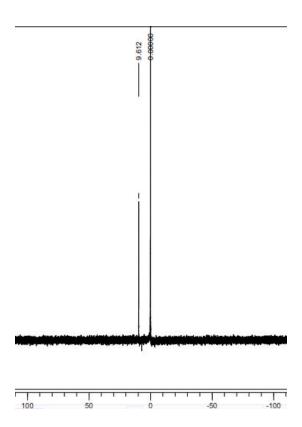
**Figure S2.** The  $^{31}$ P NMR spectrum of **1** in  $d_6$ -DMSO.



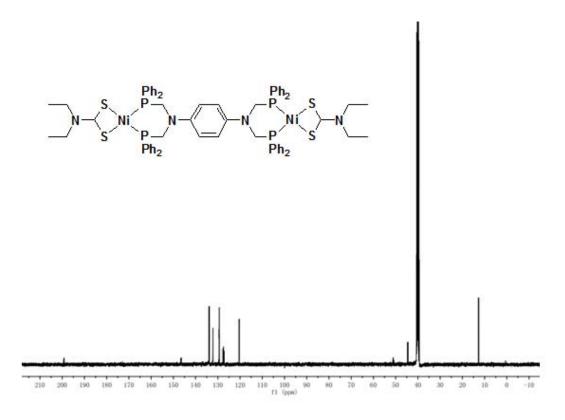
**Figure S3.** The  $^{13}$ C NMR spectrum of **1** in  $d_6$ -DMSO.



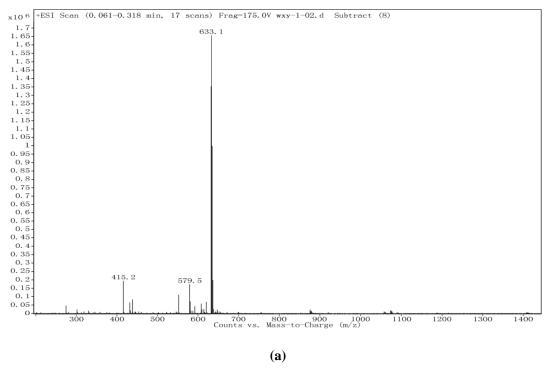
**Figure S4.** The  ${}^{1}$ H NMR spectrum of **2** in  $d_{6}$ -DMSO.



**Figure S5.** The  $^{31}$ P NMR spectrum of **2** in  $d_6$ -DMSO.



**Figure S6.** The  $^{13}$ C NMR spectrum of **2** in  $d_6$ -DMSO



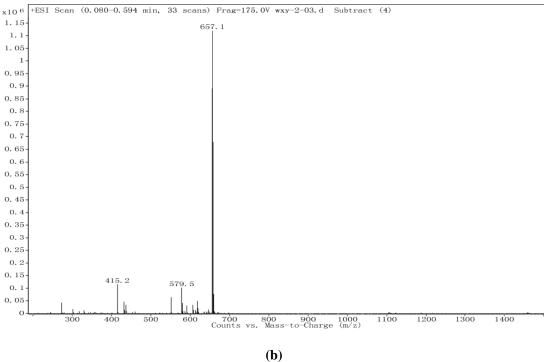


Figure S7. (a) ESI-MS spectrum of 1 in CH<sub>3</sub>CN; (b) ESI-MS spectrum of 2 in CH<sub>3</sub>CN

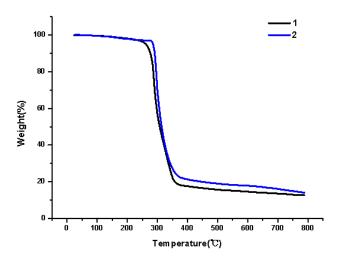
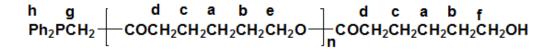
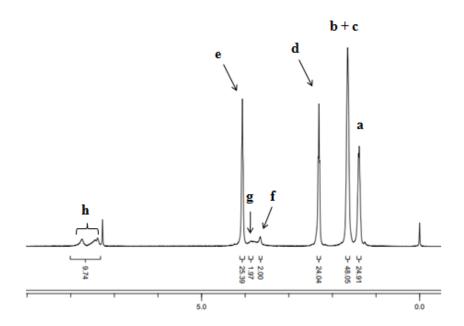
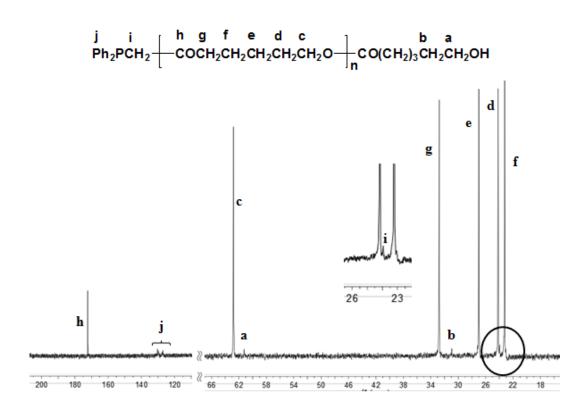


Figure S8. The TGA curves for compounds 1 and 2.



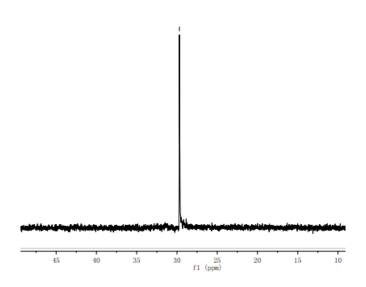


**Figure S9.** The <sup>1</sup>H NMR spectrum of PCL in CDCl<sub>3</sub>.



**Figure S10.** The <sup>13</sup>C NMR spectrum of PCL in CDCl<sub>3</sub>.





**Figure S11.** The <sup>31</sup>P NMR spectrum of PCL in CDCl<sub>3</sub>.

**Scheme S1.** The proposed mechanism for the ROP of  $\varepsilon$ -caprolactone.