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Alternating copolymerization of epoxides with carbon dioxide or cyclic anhydrides using bimetallic nickel and cobalt catalysts: Preparation of hydrophilic nanofibers from functionalized polyesters

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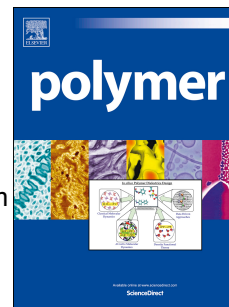
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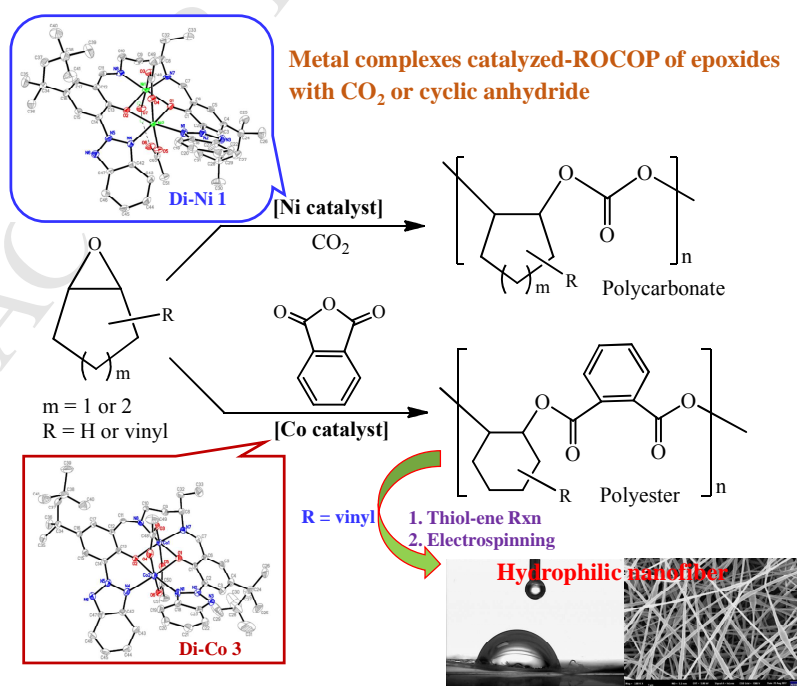
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## GRAPHICAL ABSTRACT

**Alternating copolymerization of epoxides with carbon dioxide or cyclic anhydrides using bimetallic nickel and cobalt catalysts: preparation of hydrophilic nanofibers from functionalized polyesters**Chi-Hang Chang,<sup>a</sup> Chen-Yen Tsai,<sup>a</sup> Wei-Jen Lin,<sup>b</sup> Yu-Chia Su,<sup>a</sup> Hui-Ju Chuang,<sup>a</sup> Wan-Ling Liu,<sup>c</sup>Chi-Tien Chen,<sup>a</sup> Chih-Kuang Chen\*<sup>b</sup> and Bao-Tsan Ko\*<sup>a</sup><sup>a</sup> Department of Chemistry, National Chung Hsing University, Taichung 402, Taiwan<sup>b</sup> Department of Fiber and Composite Materials, Feng Chia University, Taichung 407, Taiwan<sup>c</sup> Department of Chemistry, Chung Yuan Christian University, Chung-Li 32023, Taiwan

New bimetallic bis(benzotriazole iminophenolate) or bis(benzothiazole iminophenolate) nickel and cobalt complexes were developed for versatile ROCOP of internal epoxides with CO<sub>2</sub> or phthalic anhydride (PA). Particularly, di-Co complex **3** was able to copolymerize 4-vinyl-1,2-cyclohexene oxide with PA to afford the vinyl-functionalized polyester, which could be further utilized for the preparation of hydrophilic nanofiber *via* functional modification and electrospinning.



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