

البحث الثالث (رقم 33 في قائمة البحوث الكلية)

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| Title | L-Proline catalyzed one-pot synthesis of polysubstituted pyridine system incorporating benzothiazole moiety <i>via</i> sustainable sonochemical approach |
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The efficient, highly convenient synthesis of polysubstituted pyridine derivatives was established *via* the reaction of N-(benzothiazol-2-yl)-2-cyanoacetamides with an assortment of arylidene malononitriles and arylidene ethyl cyanoacetates in the presence of L-proline as an efficient organocatalyst for this type of ultrasonic-mediated Michael addition. The mechanistic pathway and factors affecting this reaction were also established. The main characteristics of this procedure are high yields, use of a cost-effective catalyst, and easy work-up and purification.