

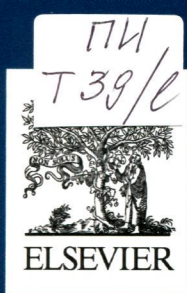
Vol. 55 • Issue 31 • 30 July 2014 • ISSN 0040-4039

# Tetrahedron Letters

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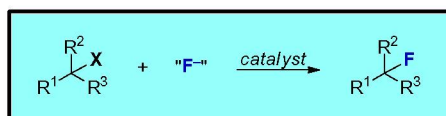
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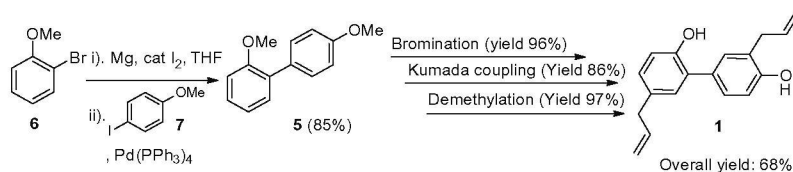


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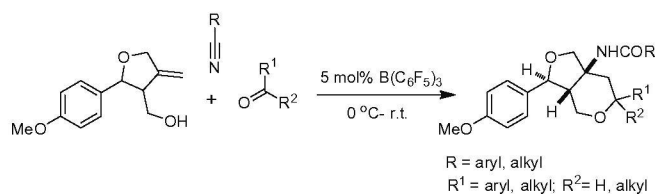
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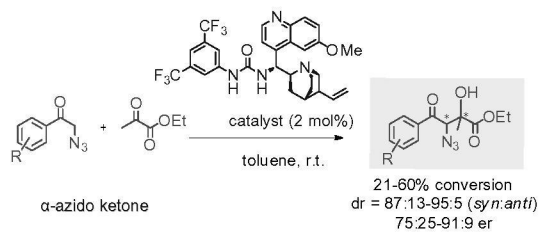
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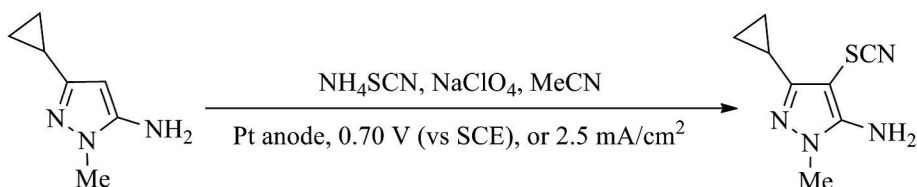


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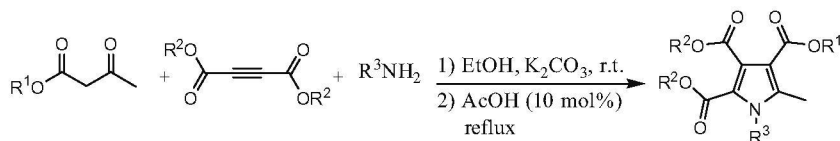
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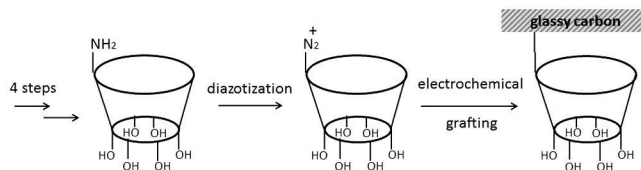
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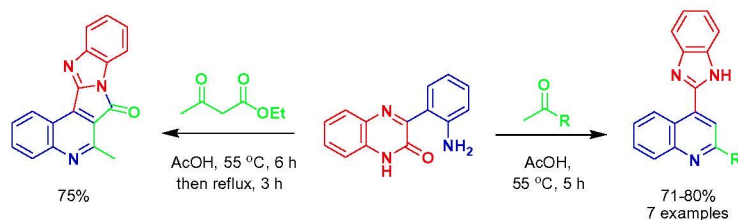
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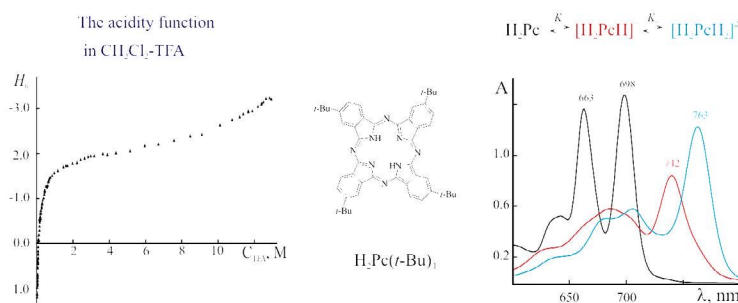
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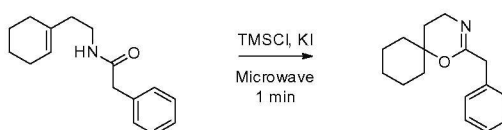
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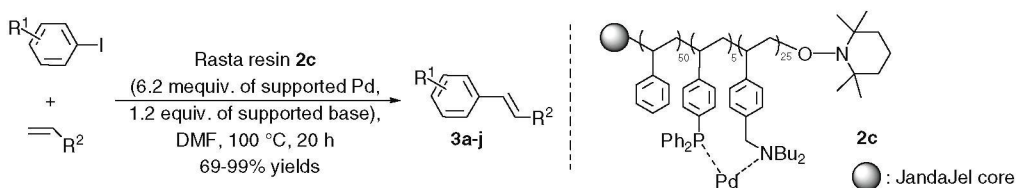
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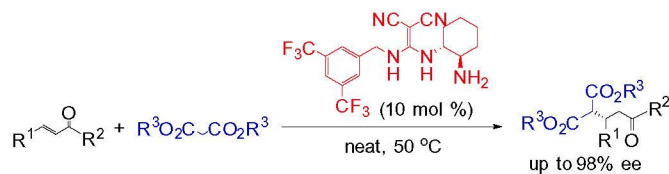
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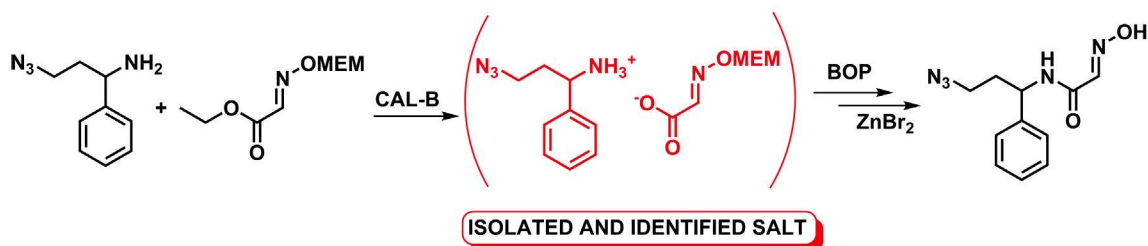
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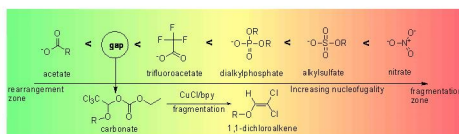
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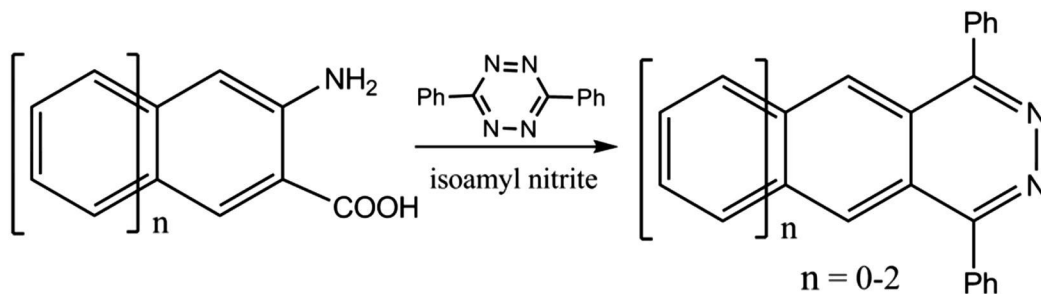
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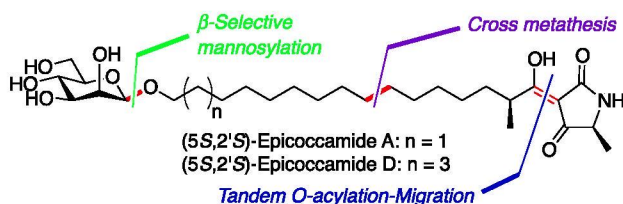
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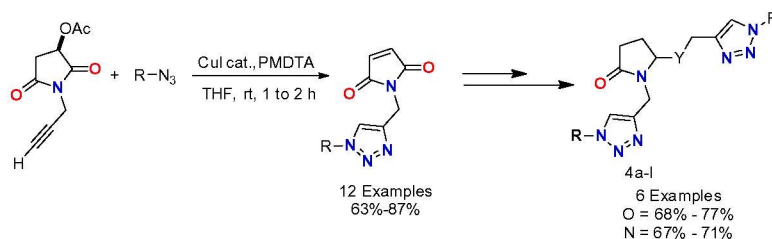
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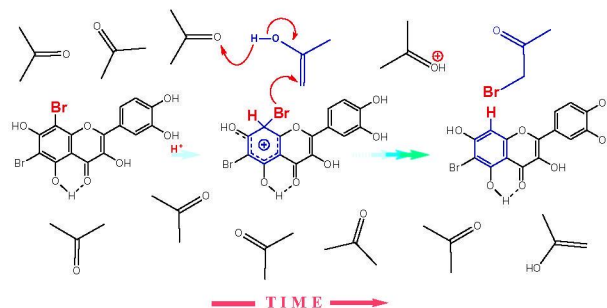
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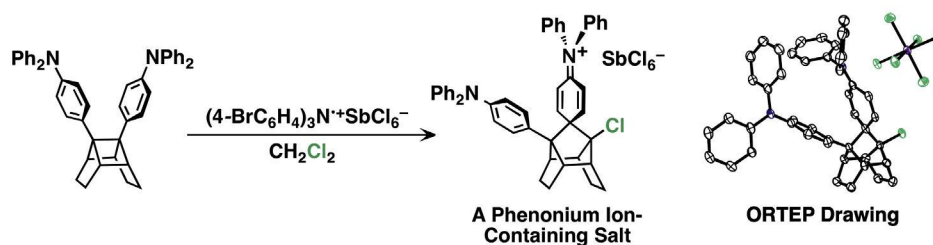
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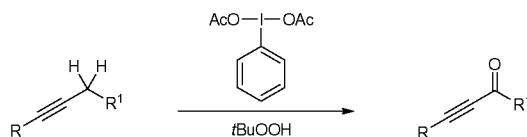
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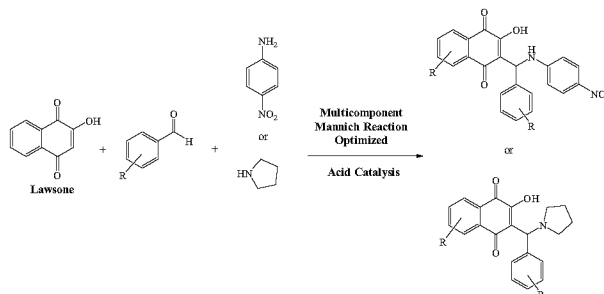
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**A simple and convenient method for synthesis of new aminonaphthoquinones derived from lawsone by catalytic multicomponent Mannich reaction**

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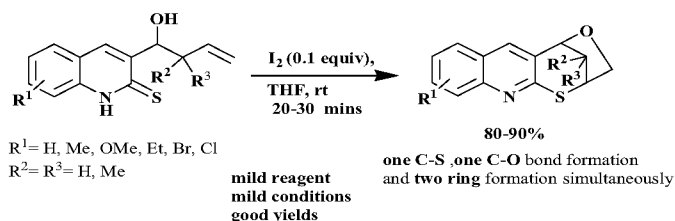


Molecules with the quinone structure containing nitrogen constitute one of the most interesting classes of compounds in organic chemistry because of their biological properties and their potential as intermediates in the synthesis of heterocycles. This work describes a clean, efficient and facile one-pot protocol for the synthesis of a series of new aminonaphthoquinones derived from 2-hydroxy-1,4-naphthoquinone (lawsone) by three-component Mannich reaction using catalytic amount of *p*-TsOH at room temperature. At the present work, we improved the yield and significantly reduced the reaction time for several Mannich reactions with different amine and aromatic aldehydes using a non-expensive, mild catalyst and suitable solvent.

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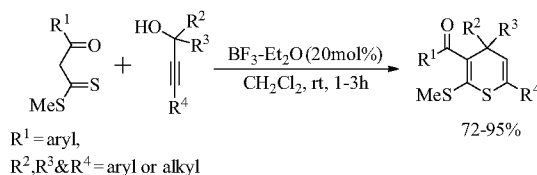
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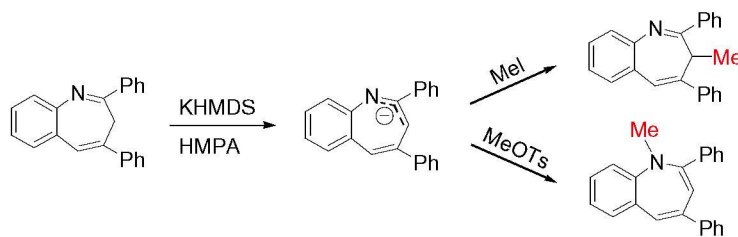
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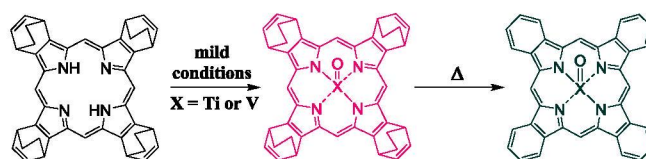
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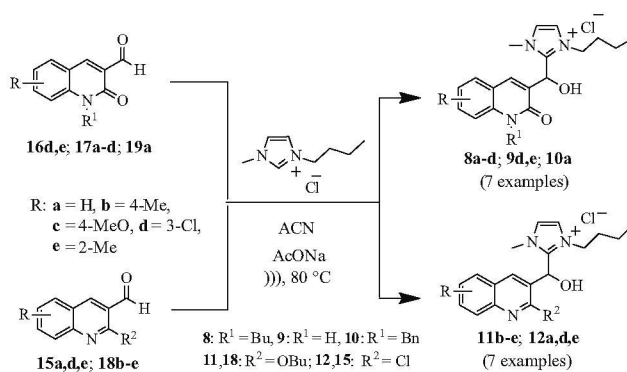
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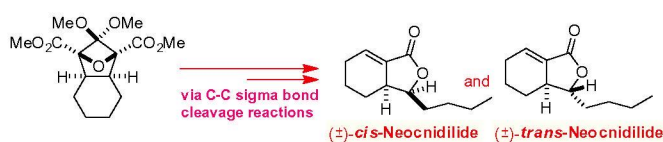
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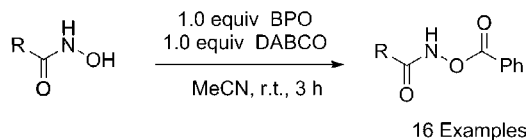




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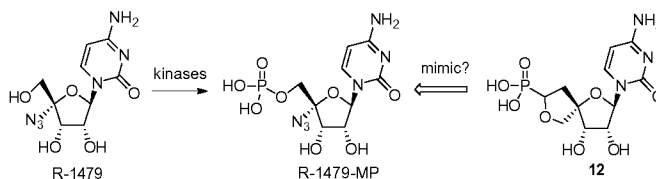
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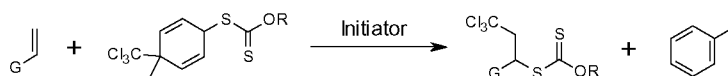
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\*Corresponding author

Supplementary data available via ScienceDirect

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