Supporting Information

Cross-Dehydrogenative regioselective Csp³-Csp² coupling mode of enamino-ketones followed by Rearrangement, An amazing formation route to Acridine-1,8-diones derivatives

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Formation mechanism of Acridine-1,8-diones, 3a-3j:

A most plausible formation mechanism of the acridine-1,8-dione derivatives (3a-3j) has been proposed in Scheme S1. Initially, in presence of air or oxygen and CuBr, Friedel-Crafts-type CDC reaction between A and 1b or 1c provides the intermediate C via in situ generated intermediate B. Then, intermediate C decomposes to two moieties D and E. After that, nucleophilic attack of E to intermediate D furnishes the adduct F, which readily tautomerise to G. Finally elimination of one molecule of ammonia from the G produces the ultimate product H.
$^1$H NMR and $^{13}$C NMR spectra of 2a
\(^1\)H NMR and \(^{13}\)C NMR spectra of 2b
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$^1$H NMR and $^{13}$C NMR spectra of 2n

2n

2n
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$^1$H NMR and $^{13}$C NMR spectra of 3a
$^{1}H$ NMR and $^{13}C$ NMR spectra of 3b
$^1$H NMR and $^{13}$C NMR spectra of 3c

![NMR Spectra of 3c](image_url)
$^{1}H$ NMR and $^{13}C$ NMR spectra of 3d
$^1$H NMR and $^{13}$C NMR spectra of 3e

![NMR Spectra Image](image-url)
$^1$H NMR and $^{13}$C NMR spectra of 3f

![Spectrum 1](image1)

![Spectrum 2](image2)
$^1$H NMR and $^{13}$C NMR spectra of 3g
$^1$H NMR and $^{13}$C NMR spectra of 3h
$^{1}H$ NMR and $^{13}C$ NMR spectra of 3i
$\text{H} \text{ NMR and } ^{13}\text{C} \text{ NMR spectra of } 3j$

$\text{H} \text{ NMR and } ^{13}\text{C} \text{ NMR spectra of } 3j$