Supplementary Material

A facile base-promoted domino Michael/O-alkylation reaction for the construction of succinimide substituted 3(2H)-furanones

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1. Copies of NMR spectra of the products

$^1\text{H}$ and $^{13}\text{C}$ NMR of 3a
$^{1}H$ and $^{13}C$ NMR of 3b
$^1$H and $^{13}$C NMR of 3c
$^1$H and $^{13}$C NMR of 3d
$^1$H and $^{13}$C NMR of 3e
$^1$H and $^{13}$C NMR of 3f
$^1$H and $^{13}$C NMR of 3g
$^1$H and $^{13}$C NMR of 3h

The image depicts a 1H and 13C NMR spectrum of compound 3h. The spectrum shows chemical shifts for both proton and carbon nuclei, indicating the molecular structure and its vibrational frequencies. The peaks are labeled with their corresponding chemical shifts, providing insights into the molecular environment and functional groups present in 3h.
$^1$H and $^{13}$C NMR of 3j
$^1$H and $^{13}$C NMR of 3k
^1H and ^13C NMR of 3I
$^1$H and $^{13}$C NMR of 3m

[Diagram of NMR spectra and chemical structures]
$^1$H and $^{13}$C NMR of 3n

[Chemical Structure Image]

[Graphical NMR Spectra]
$^1\text{H}$ and $^{13}\text{C}$ NMR of 3o
2. Single-crystal X-ray crystallography of product 3a

Single-crystal X-ray crystallography of product 3a (CDCC number: CCDC 1476572)

Bond precision: C-C = 0.0044 Å

Wavelength = 0.71073 Å

Cell:
- a = 5.4135 (8) Å
- b = 8.3175 (11) Å
- c = 31.982 (4) Å
- alpha = 90°
- beta = 93.664 (12)°
- gamma = 90°

Temperature: 292 K

Volume:
- Calculated: 1437 (3) Å³
- Reported: 1437.1 (3) Å³

Space group:
- P 21/n
- P 1 21/n 1

Hall group:
- P 2yn
- P 2yn

Moiety formula: C16 H15 N O5

Sum formula: C16 H15 N O5

Mr: 301.29

Dx, g cm⁻³: 1.393

Z: 4

Mu (mm⁻¹): 0.105

F000: 632.0

F000': 632.36

h, k, lmax: 7, 11, 43

Nref: 3806

Tmin, Tmax: 0.981, 0.984

Correction method = # Reported T Limits: Tmin = 0.453 Tmax = 1.000

AbsCorr = MULTI-SCAN

Data completeness = 0.862

Theta (max) = 28.922°

R (reflections) = 0.0682 (2020)

wR2 (reflections) = 0.1983 (3279)

S = 1.053

Npar = 200