

Iodine-mediated cross-dehydrogenative coupling of pyrazolones and alkenes

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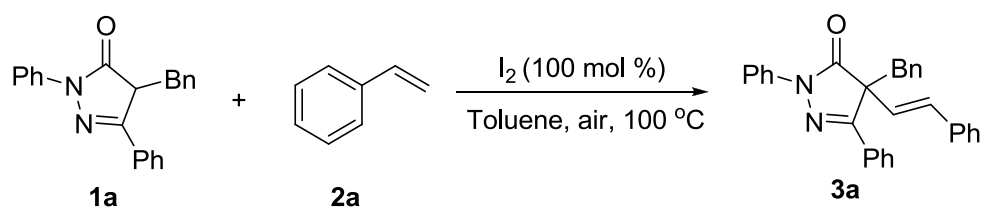
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1. Optimization of the reaction conditions

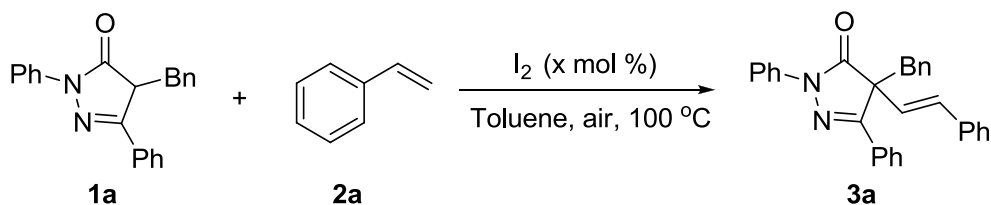
Table 1. Screening of the amount of **2a**^a



entry	ratio (2a:1a)	yield ^b (%)
1	1	trace
2	2	20
3	3	22
4	5	36
5	8	52
6	10	70
7	12	69

^a Reaction conditions: **1a** (0.1 mmol), **2a** (x mmol), and I_2 (100 mol%) in PhMe (2.0 mL) at 100 °C were stirred under an air atmosphere for 12 h. ^b Isolated yields.

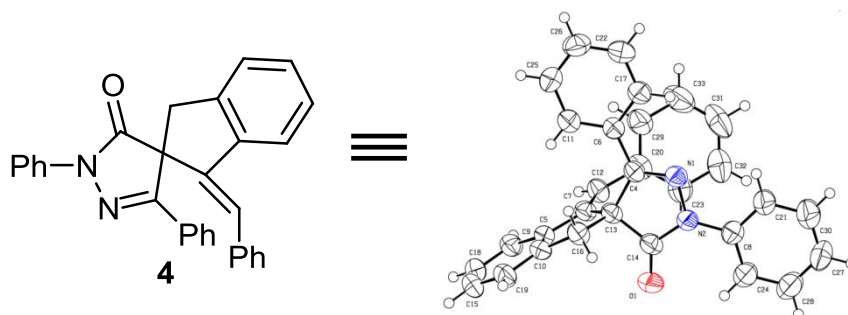
Table 2. Screening of the loading of iodine^a



entry	iodine loading	yield ^b (%)
1	20 mol %	20
2	50 mol %	59
3	80 mol %	66
4	100 mol %	70
5	120 mol %	67
6	150 mol %	51
7	200 mol %	53
8	500 mol %	N.P. ^c

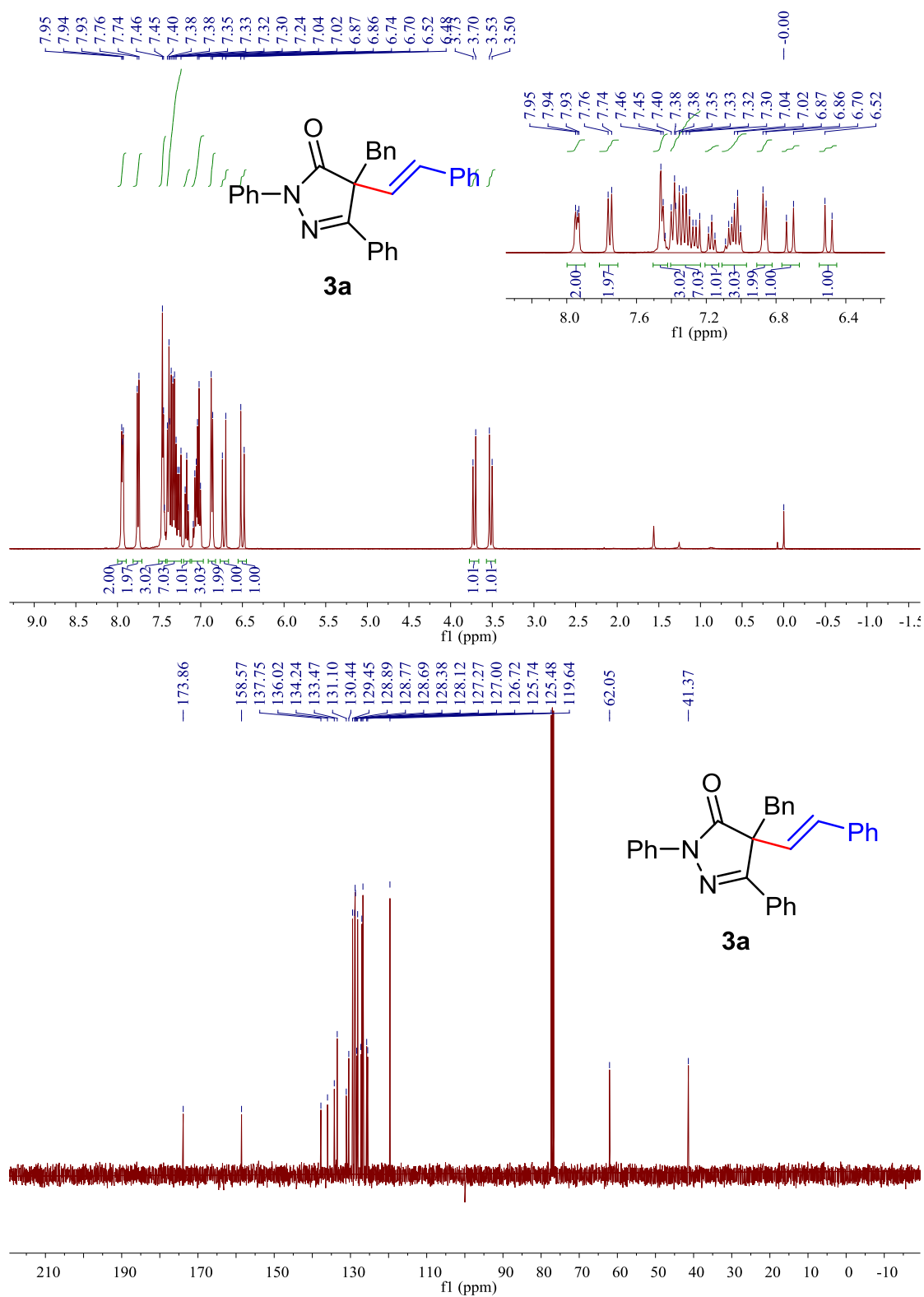
^a Reaction conditions: **1a** (0.1 mmol), **2a** (1.0 mmol), and I₂ (x mol%) in PhMe (2.0 mL) at 100 °C were stirred under an air atmosphere for 12 h. ^b Isolated yields. ^c N.P. = no product.

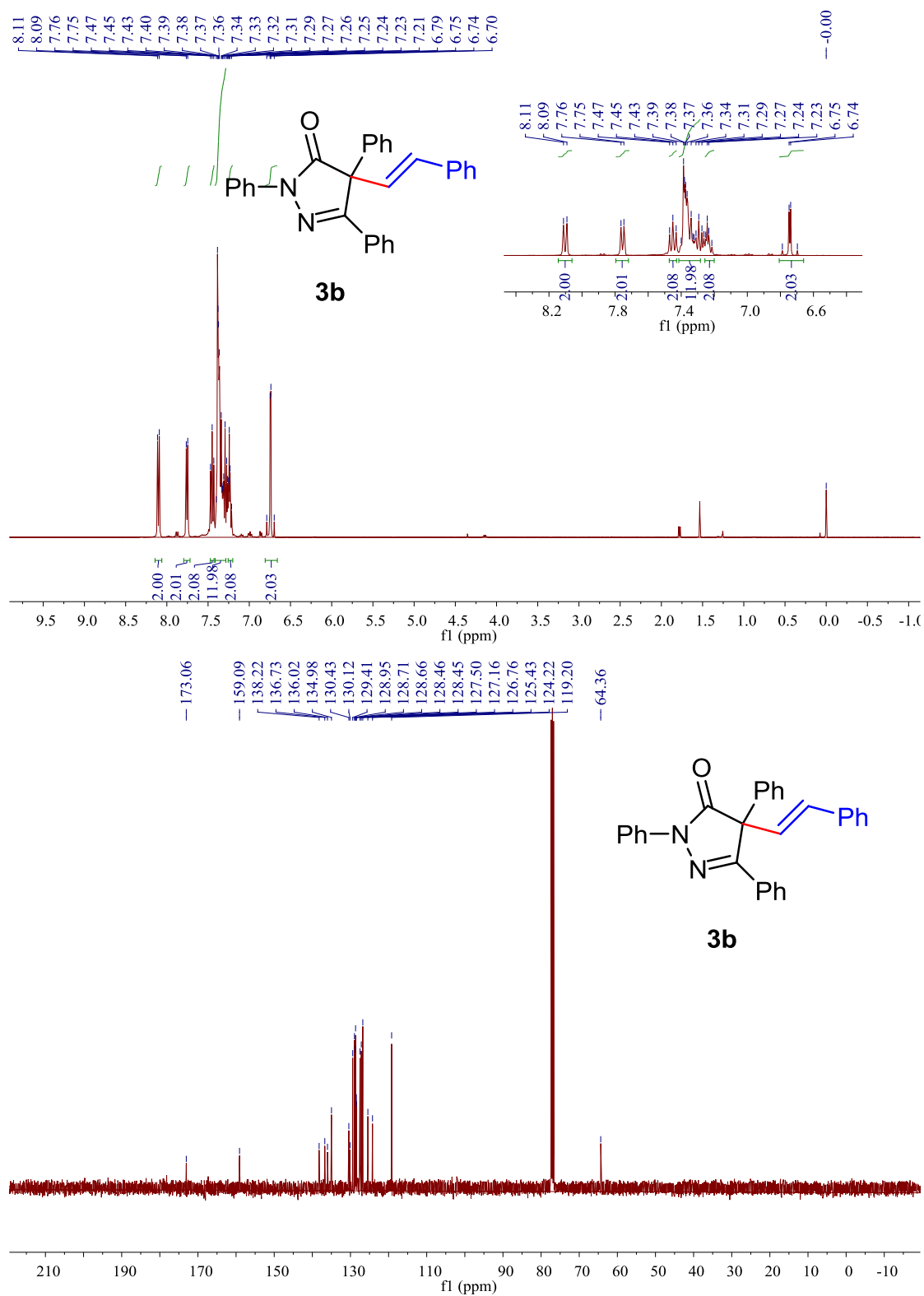
2. X-ray crystallography of compound **4**

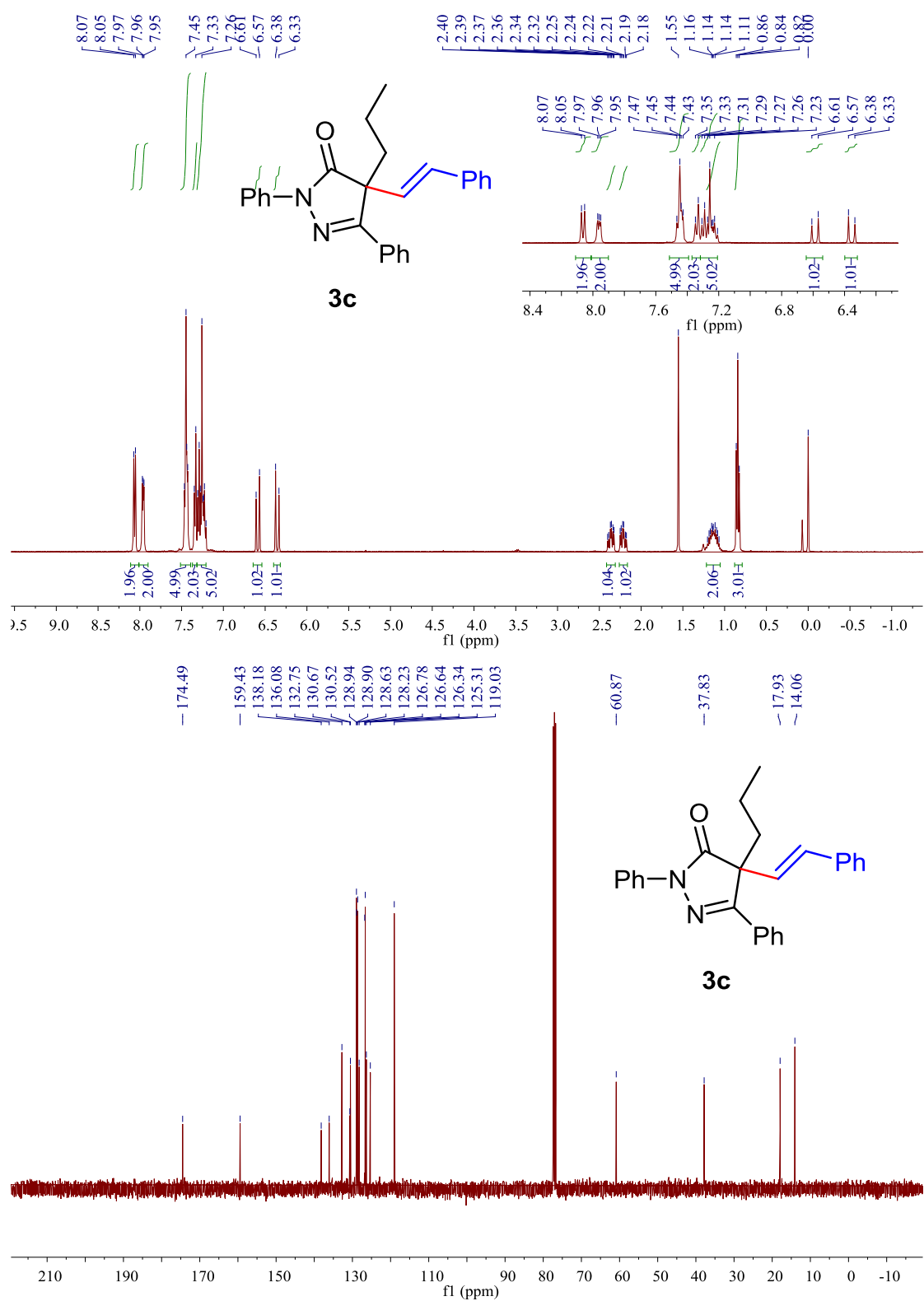


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3. NMR Spectra







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