

Microwave-Assisted Vitamin C-Induced Simple Synthesis of Enamines

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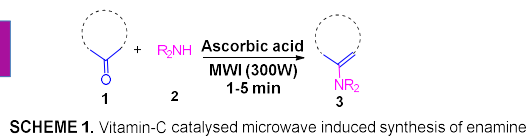
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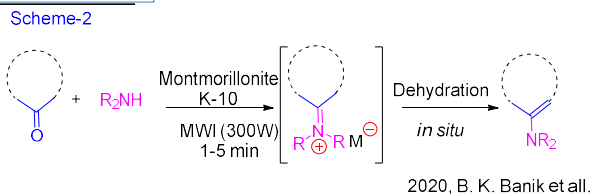
ABSTRACT

The synthesis of enamines is an important operation in synthetic chemistry. Enamines have also served important synthetic building block to execute the 1,4-conjugate addition and annulation reaction in the synthesis of diverse heterocyclic and bioactive natural products including anti-convulsant, anti-inflammatory and antitumor agents. Vitamin C mediated simple and high yielding protocol to synthesis of various enamines with secondary amines and ketones is developed under microwave condition. This protocol is very convenient to access the enamines from cyclic amines with various carbonyl compounds in very high yield under mild reaction conditions with very short reaction time.

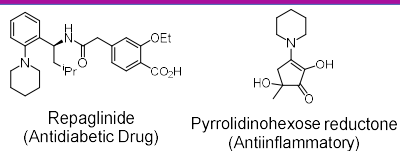
OBJECTIVE



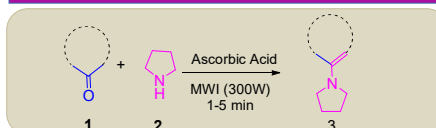
Previous Work



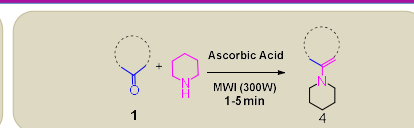
BIOLOGICALLY IMPORTANT DERIVATIVES



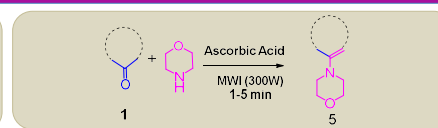
BROAD SUBSTRATE SCOPE



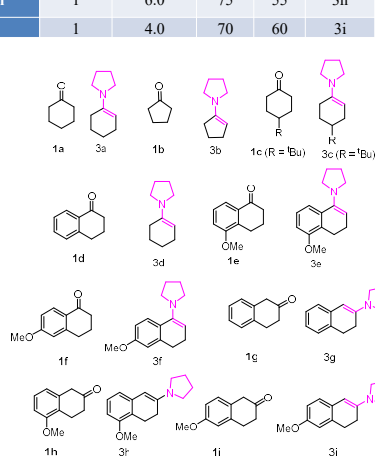
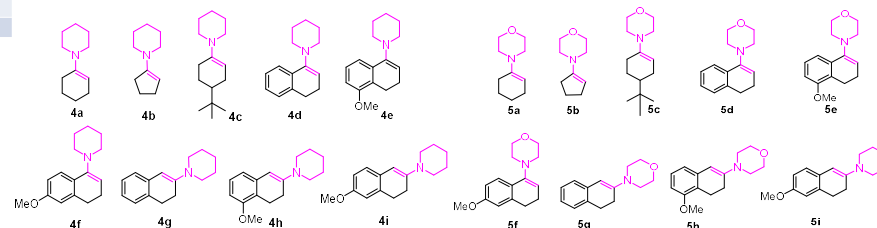
	Ascorbic Acid (eq.)	Pyrrolidine (eq.)	Yield ^b (%)	Temp. °C	Enamine (3a-i)	Time (min)
1a	1	5.0	80	50	3a	3
1b	1	4.0	90	50	3b	2
1c	1	6.0	75	60	3c	6
1d	1	6.0	80	60	3d	8
1e	1	6.0	75	55	3e	7
1f	1	5.0	70	50	3f	8
1g	1	6.0	80	60	3g	4
1h	1	6.0	75	55	3h	6
1i	1	4.0	70	60	3i	6



	Ascorbic Acid (eq.)	Piperidine (eq.)	Yield ^b (%)	Temp. °C	Enamine (4a-i)	Time (min)
1a	1	3.0	80	50	4a	2
1b	1	4.0	80	50	4b	2
1c	1	5.0	75	60	4c	4
1d	1	5.0	70	60	4d	5
1e	1	5.0	75	55	4e	6
1f	1	5.0	70	50	4f	7
1g	1	5.0	70	60	4g	5
1h	1	5.0	75	55	4h	6
1i	1	4.0	70	60	4i	6



	Ascorbic Acid (eq.)	Morpholine (eq.)	Yield ^b (%)	Temp. °C	Enamine (5a-i)	Time (min)
1a	1	3.0	80	50	5a	6
1b	1	4.0	80	50	5b	3
1c	1	5.0	75	60	5c	7
1d	1	4.0	70	60	5d	8
1e	1	5.0	75	55	5e	9
1f	1	5.0	70	50	5f	7
1g	1	5.0	70	60	5g	5
1h	1	3.0	75	55	5h	8
1i	1	4.0	70	60	5i	7



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