

안녕하세요. 쉐라이오코리아 입니다. 지난 20여년동안 Flow Chemistry 분야의 선두 주자로서 유기 합성반응에 탁월한 솔루션을 제공해온 ThalesNano에서 mg scale 부터 kg scale 까지 같은 반응기에서 손쉽게 적용할 수 있는 탁월한 연속흐름식 반응기를 출시하게 되었습니다.



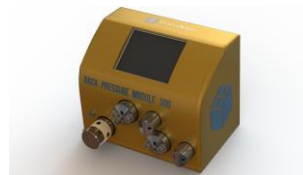
Phoenix Flow Reactor™



Gas module



Control module



Back pressure



H-GENIE

450°C, 200 bar

Homogeneous and heterogeneous reaction

From mg to kg scale synthesis

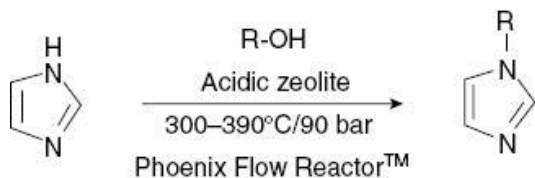
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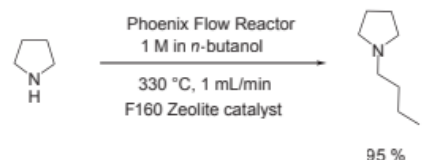
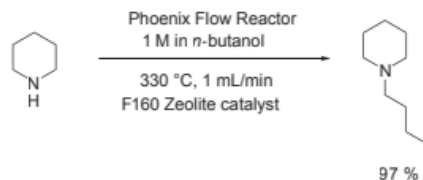
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N-alkyl imidazoles



Alcohol	Catalyst		c (M)	T (°C)	V _{flow} (mL/min)	¹ H-NMR yield (%)
	Zeolite F160 (g)	Silica (g)				
Ethanol	8.00	3.4	1	350	1	>99
			2	350	1	92
			2	360	1	>99
			2	380	1.25	>99

Table 1. Reaction conditions optimization with ethanol.

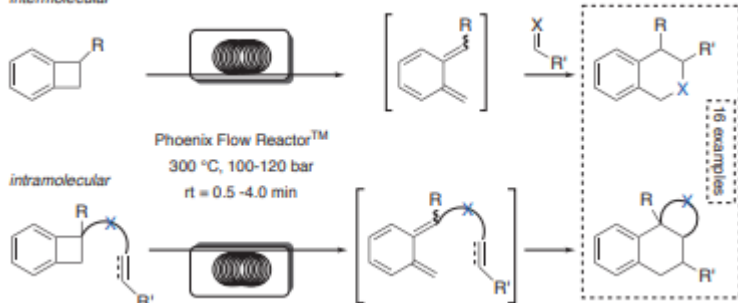


Alcohol	Catalyst		c (M)	T (°C)	V _{flow} (mL/min)	¹ H-NMR yield (%)
	Zeolite F160 (g)	Silica (g)				
<i>n</i> -butanol	8.0	3.4	1	390	1	98
<i>n</i> -pentanol	8.0	3.4	1	390	1	98
<i>n</i> -octanol	8.0	3.4	1	390	1	93

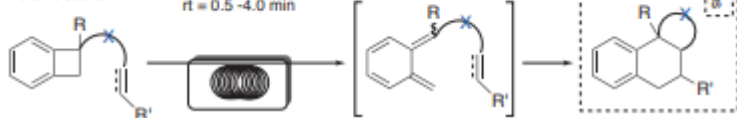
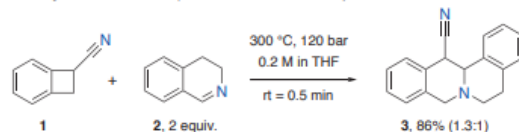
Table 2. Alkylation of imidazole with different primary alcohols.

Diels-Alder Cycloaddition

intermolecular

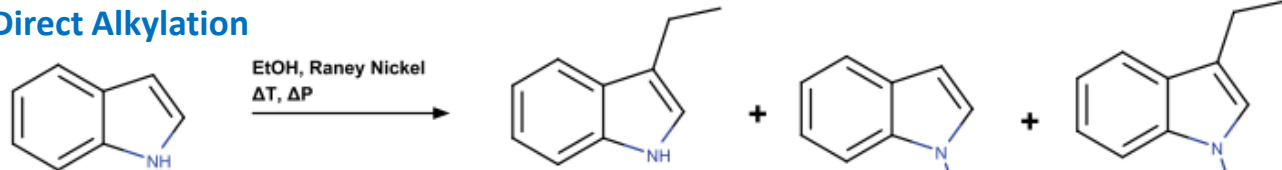


intramolecular

The synthesis of **3** (intermolecular DA):

Scheme 1. Inter- and intramolecular Diels-Alder cycloaddition reactions of *ortho*-quinodimethanes

Direct Alkylation



Temperature °C	Flow rate (mL/min)	Conversion (%)	Selectivity (%)			
			1a	1b	1c	other
250	0.5	>99	58	5	22	15

1a

1b

1c

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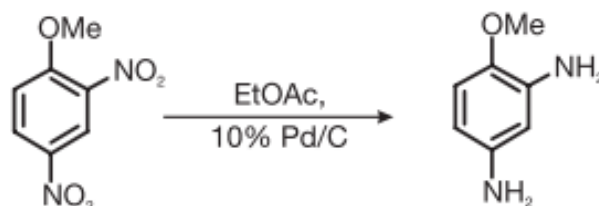
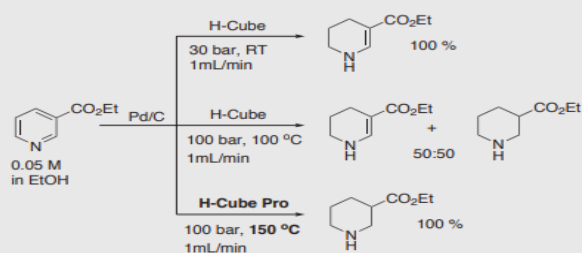
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Be Professional at
Hydrogenation and
Flow Chemistry



CHEMISTRY EXAMPLE: AROMATIC RING SATURATION



- 전기분해에 의한 수소 발생
- 온도범위 : 10 – 150 ° C
- 압력범위 : 대기압 – 100 bar
- Flow rate : 0.3 – 3 mL/min

- 최대 수소 생성 량 : 60 NmL/min
- Water reservoir capacity : 300 mL
- 반응물과 용매 자동 전환
- CatCart : 30mm, 70mm

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