

C-H Bond Functionalization via Hydride Transfer: Formation of α -Arylated Piperidines and 1,2,3,4-Tetrahydroisoquinolines via Stereoselective Intramolecular Amination of Benzylic C-H Bonds

Paul A. Vadola, Ignacio Carrera and Dalibor Sames*

*Department of Chemistry, Columbia University,
3000 Broadway, New York, New York, 10027*

Supporting Information

NMR Spectra for HT-amination Products

Product	Proton Spectrum	Carbon Spectrum
3-(4-methoxyphenyl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (2).	3	4
2-(4-methoxyphenyl)-5,5-dimethyl-1-tosylpiperidine (5).	5	6
3-(4-methoxyphenyl)-2-tosyl-2-azaspiro[5.5]undecane (7).	7	8
2-(4-methoxyphenyl)-4,4-dimethyl-1-tosylpiperidine (9).	9	10
<i>trans</i> -2-(4-methoxyphenyl)-4-methyl-1-tosylpiperidine (11).	11	12
2-(4-methoxyphenyl)-1-tosylpiperidine (13).	13	14
Methyl 4-(4,4-dimethyl-1-tosylpiperidin-2-yl)phenylcarbamate (15).	15	16
5,5-dimethyl-2-phenyl-1-tosylpiperidine (17).	17	18
<i>cis</i> -2-(4-methoxyphenyl)-5-methyl-1-tosylpiperidine (19).	19	20
<i>trans</i> -2-(4-methoxyphenyl)-4-phenyl-1-tosylpiperidine (21).	21	22
<i>cis</i> -2-(2-methoxyphenyl)-5-methyl-1-tosylpiperidine (major diast. <i>cis</i> -23).	23	24
<i>trans</i> -2-(2-methoxyphenyl)-5-methyl-1-tosylpiperidine (minor diast. <i>trans</i> -23).	25	26
(<i>Z</i>)-1-methoxy-8-methyl-6,7-dihydro-5 <i>H</i> -benzo[7]annulene (25).	27	28
7-fluoro-3-(4-methoxyphenyl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (29).	29	30
6-fluoro-3-(4-methoxyphenyl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (31).	31	32
6,7-fluoro-3-(4-methoxyphenyl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (33).	33	34
3-(4-methoxyphenyl)-2-tosyl-1,2,3,4-tetrahydrobenzo[<i>f</i>]isoquinoline (35).	35	36
3-(biphenyl-4-yl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (39).	37	38
3-(4-methoxy-2-methylphenyl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (41).	39	40
3-(6-methoxynaphthalen-2-yl)-2-tosyl-1,2,3,4-tetrahydroisoquinoline (43).	41	42
3-(4-methoxyphenyl)-1,2,3,4-tetrahydroisoquinoline (44).	43	44
<i>cis</i> -2-(4-methoxyphenyl)-5-methylpiperidine (45).	45	46

















































































