

Correction to Simple and Direct sp³ C—H Bond Arylation of Tetrahydroisoquinolines and Isochromans via 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone Oxidation under Mild Conditions

Wataru Muramatsu,* Kimihiro Nakano, and Chao-Jun Li* *Org. Lett.* **2013**, *15* (14), p 3650. DOI: 10.1021/ol401534g

n entry 3 of Table 1, a co-oxidant was corrected.

Table 1. DDQ-Mediated C-H Bond Arylation of THIQ^a

"standard" conditions

entry	variation from the "standard" conditions	yield of 1 $(\%)^b$
1	none	>99 (95) ^c
2	no DDQ	0
3	DDQ (10 mol %), MnO ₂ (1.1 equiv)	8
4	CuBr (10 mol %), TBHP (1.1 equiv)	0
5	CPh ₃ BF ₄ , instead of DDQ	43
6	chloranil, instead of DDQ	56
7	o-chloranil, instead of DDQ	90
8	O_2 (1 atm), instead of DDQ	10
9	CAN, instead of DDQ	11
10	NHPI, instead of DDQ	0
11	mCPBA, instead of DDQ	0
12	PhMgBr, ^d instead of PhMgBr	44
13	PhMgCl, ^e instead of PhMgBr	81
14	PhZnI or PhZnBr, e instead of PhMgBr	0
15	PhH, instead of PhCl	75
16	PhMe, instead of PhCl	71
17	CHCl ₃ , instead of PhCl	42
18	THF, instead of PhCl	69
19	DMF, instead of PhCl	19
20	addition of HQME (1.1 equiv)	51

"All data are the average of two experiments. b The yield was determined by 1 H NMR analysis versus a calibrated 1,4-bis(trifluoromethyl)-benzene as an internal standard. 'Isolated yield. d Et₂O solution was used. e THF solution was used.

In Scheme 4, a DDQ radical anion and a DDHQ anion were corrected.

Scheme 4. Plausible Mechanism for DDQ-Mediated C-H Bond Arylation

$$X = NR, O$$

$$+$$

$$CI \longrightarrow CN$$

$$CI \longrightarrow CN$$

$$CN$$

$$A \longrightarrow B$$

$$CI \longrightarrow CN$$

$$Ar-MgBr$$

$$Ar-MgBr$$

$$CI \longrightarrow CN$$

$$Ar-MgBr$$

$$CI \longrightarrow CN$$

$$CI \longrightarrow$$

Received: December 20, 2013
Published: December 31, 2013