

Supplementary data

Catalytic O-methylation of phenols with dimethyl carbonate to aryl methyl ethers using [BMIm]Cl

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Aryl methyl ethers tabulated in Table 2 were identified by GC-MS spectra, which are reported as follows.

anisole: m/z 108(M⁺, 100%), 93(19), 79(20), 78(75), 77(24), 74(5), 65(75), 63(13), 51(17), 50(11), 39(25).

2-methylanisole: m/z 122(M⁺, 100%), 121(22), 107(68), 92(19), 91(42), 79(26), 77(54), 74(2), 65(11), 63(8), 51(13), 41(11), 39(9).

3-methylanisole: m/z 122(M⁺, 100%), 121(47%), 107(35%), 92(8%), 91(34%), 79(19%), 77(59%), 65(9%), 63(8%), 51(11), 41(5), 39(7%).

4-methylanisole: m/z 122(M⁺, 100%), 121(54), 107(32), 92(10), 91(26), 79(26), 77(46), 74(1), 65(7), 63(6), 51(11), 39(6).

1,2-dimethoxybenzene: m/z 138(M⁺, 100%), 123(37), 107(1), 95(53), 92(5), 80(9), 77(44), 74(1), 67(8), 65(20), 63(10), 55(3), 52(18), 41(11), 38(3).

2,3-dimethylanisole: m/z 136(M⁺, 100%), 121(89), 105(16), 103(9), 91(47), 77(29), 73(1), 65(7), 63(4), 51(6), 39(5).

4-chloroanisole: m/z 144(34%), 142(M^+ , 100), 127(57), 111(5), 107(3), 92(2), 79(3), 77(7), 75(12), 73(10), 63(12), 50(5), 38(2).

4-nitroanisole: m/z 153(M^+ , 100%), 137(5), 123(61), 107(10), 95(19), 92(56), 80(4), 77(53), 64(30), 63(27), 54(2), 50(12), 41(5), 38(5).

2-*tert*-butyl-1,4-dimethoxybenzene: m/z 194(M^+ , 58%), 179(100), 164(40), 151(24), 149(10), 136(4), 124(3), 121(13), 115(3), 108(2), 103(3), 91(11), 77(9), 65(3), 51(2), 41(3).

1,4-dimethoxybenzene: m/z 138(M^+ , 79%), 123(100), 108(2), 95(29), 92(4), 80(4), 77(4), 74(1), 67(1), 63(7), 52(4), 41(6).

4'-methoxyacetophenone: m/z 150(M^+ , 36%), 135(100), 107(12), 92(15), 77(25), 64(9), 63(7), 50(5), 43(10), 39(32).

4-methoxybenzophenone: m/z 212(M^+ , 50%), 181(3), 169(3), 152(2), 139(2), 135(100), 115(2), 105(10), 92(13), 77(33), 64(7), 51(10), 39(2).

1-methoxynaphthalene: m/z 158(M^+ , 93%), 143(45), 127(7), 115(100), 101(2), 89(9), 79(3), 75(4), 63(8), 51(2), 39(2).

2-methoxynaphthalene: m/z 158(M^+ , 100%), 143(10), 128(15), 115(99), 101(2), 94(1), 89(10), 79(3), 75(4), 63(8), 51(3), 39(2).