

Supporting Information

N- (*tert*-butoxycarbonyl)-N-[4- (dimethylazaniumylidene)-1,4-dihydropyridin-1-ylsulfonyl]azanide: A New Sulfamoylating Agent. Structure and Reactivity towards Amines.

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General procedure for sulfamoylation of amine : 1eq of reagent **2** and 1eq of amine were stirred at room temperature until total dissolving of compound **2**. Then the mixture was concentrated *in vacuo* and the residue was purified by flash chromatography on silicagel.

N-(*tert*-butoxycarbonyl)-N'-(butyl)sulfamide **3a :** Mp : 153-154°C ; ¹H NMR (200MHz, CDCl₃) δ 7.25 (s, 1H), 5.05 (t, 1H, *J*= 6.5Hz), 3.1 (q, 2H, *J*=6.5Hz), 1.4-1.5 (m, 13H), 0.9 (t, 3H, *J*=7.2Hz) ; MS (FAB positive mode, NOBA) *m/z* 74 (M+H)⁺, 96 (M+Na)⁺. Anal. Calcd for C₉H₂₀N₂O₄S : C, 42.84 ; H, 7.99. Found : C, 42.97 ; H, 8.01.

N-(*tert*-butoxycarbonyl)-N'-(4-methylcyclohexyl)sulfamide **3b :** Mp : 173-175°C ; ¹H NMR (200MHz, CDCl₃) δ 7.15 (s, 1H), 5.2 (d, 1H, *J*=6.5Hz), 3.2 (m, 1H), 1.6-2 (m, 4H), 1.5 (s, 9H), 1.3 (m, 5H), 0.9 (t, 3H, *J*=6Hz) ; MS (FAB positive mode, NOBA) *m/z* 114 (M+H)⁺, 136 (M+Na)⁺. Anal. Calcd for C₁₂H₂₄N₂O₄S : C, 49.29 ; H, 8.27. Found : C, 49.15 ; H, 8.28.

N-(benzyl)-N'-(*tert*-butoxycarbonyl)-sulfamide **3c :** Mp : 137-139°C ; ¹H NMR (200MHz, CDCl₃) δ 7.3 (s, 5H), 7.2 (s, 1H), 5.5 (t, 1H), 4.2 (d, 2H, *J*=6Hz), 1.5 (s, 9H) ; MS (FAB positive mode, NOBA) *m/z* 108 (M+H)⁺, 130 (M+Na)⁺. Anal. Calcd for C₁₂H₁₈N₂O₄S : C, 50.33 ; H, 6.34. Found : C, 50.46 ; H, 6.32.

N-(2-adamantyl)-N'-(*tert*-butoxycarbonyl)-sulfamide **3d :** Mp : 183-184°C ; ¹H NMR (200MHz, CDCl₃) δ 7.1 (s, 1H), 4.95 (s, 1H), 2.1 (s, 3H), 1.9 (d, 6H, *J*=3Hz), 1.65 (s, 5H),

1.5 (s, 9H) ; MS (FAB positive mode, NOBA) m/z 152 (M+H)⁺, 174 (M+Na)⁺. Anal. Calcd for C₁₅H₂₆N₂O₄S : C, 54.52 ; H, 7.93. Found : C, 54.73 ; H, 7.95.

N,N-(diisobutyl)-N'-(tert-butoxycarbonyl)sulfamide 3e : Mp : 84-86°C ; ¹H NMR (200MHz, CDCl₃) δ 7.05 (s, 1H), 3.15 (d, 4H, $J=7.4$ Hz), 1.95 (m, 2H), 1.5 (s, 9H), 0.9 (d, 12H, $J=7$ Hz) ; MS (FAB positive mode, NOBA) m/z 130 (M+H)⁺, 152 (M+Na)⁺. Anal. Calcd for C₁₃H₂₈N₂O₄S : C, 50.62 ; H, 9.15. Found : C, 50.76 ; H, 8.31.

N,N-(diisopropyl)-N'-(tert-butoxycarbonyl)sulfamide 3f : Mp : 128-130°C ; ¹H NMR (200MHz, CDCl₃) δ 7.05 (s, 1H), 3.9 (m, 2H), 1.5 (s, 9H), 1.3 (d, 12H, $J=6.8$ Hz) ; MS (FAB positive mode, NOBA) m/z 102 (M+H)⁺, 124 (M+Na)⁺. Anal. Calcd for C₁₁H₂₄N₂O₄S : C, 47.12 ; H, 8.63. Found : C, 46.95 ; H, 8.25.

N,N-dibenzyl-N'-(tert-butoxycarbonyl)sulfamide 3g : Mp : 95-96°C ; ¹H NMR (200MHz, CDCl₃) δ 7.3 (m, 11H), 4.45 (s, 4H), 1.45 (s, 9H) ; MS (FAB positive mode, NOBA) m/z 198 (M+H)⁺, 220 (M+Na)⁺. Anal. Calcd for C₁₉H₂₄N₂O₄S : C, 60.62 ; H, 6.43. Found : C, 60.79 ; H, 6.44.

N-(tert-butoxycarbonyl)-N'-(phenyl)sulfamide 3h : Mp : 158-159°C ; ¹H NMR (200MHz, CDCl₃) δ 7.25 (m, 5H), 7.1 (s, 1H), 1.6 (s, 1H), 1.45 (s, 9H) ; MS (FAB positive mode, NOBA) m/z 94 (M+H)⁺, 116 (M+Na)⁺. Anal. Calcd for C₁₁H₁₆N₂O₄S : C, 48.52 ; H, 5.92. Found : C, 48.34 ; H, 5.90.

N-(4-bromophenyl)-N'-(tert-butoxycarbonyl)sulfamide 3i : Mp : 157-158°C ; ¹H NMR (200MHz, CDCl₃) δ 7.5 (d, 2H, $J=6.8$ Hz), 7.2 (d, 2H, $J=6.8$ Hz), 7.1 (s, 1H), 1.6 (s, 1H), 1.45 (s, 9H) ; MS (FAB positive mode, NOBA) m/z 172 (M+H)⁺, 194 (M+Na)⁺. Anal. Calcd for C₁₁H₁₅BrN₂O₄S : C, 37.62 ; H, 4.30. Found : C, 37.73 ; H, 4.32.

N-(tert-butoxycarbonyl)-N'-(4-methoxyphenyl)sulfamide 3j : Mp : 164-166°C ; ¹H NMR (200MHz, CDCl₃) δ 7.2 (d, 2H, $J=5.6$ Hz), 7 (s, 1H), 6.85 (d, 2H, $J=5.6$ Hz), 3.8 (s, 3H), 1.6 (s, 1H), 1.5 (s, 9H) ; MS (FAB positive mode, NOBA) m/z 124 (M+H)⁺, 146 (M+Na)⁺. Anal. Calcd for C₁₂H₁₈N₂O₅S : C, 47.67 ; H, 6.00. Found : C, 47.86 ; H, 5.98.