Synthesis of *E*-aryl ethenesulfonamides: a simple one-pot two steps procedure from 1-hydroxy-1-arylalkanes

Andrea Aramini,* Maria C. Cesta, Silvia Coniglio, Christian Bijani, Sandro Colagioia, Valerio D'Elia and Marcello Allegretti*

*Dompé Research and Development, Chemistry Department, Dompé S.p.A., V. Campo di Pile,
67100 L'Aquila, Italy*

andrea.aramini@dompe.it; marcello.allegretti@dompe.it

Supporting Information on elemental analysis data of all new compounds.

1-(4-isobutylphenyl)ethanesulfonic acid (1): Anal. Calcd for $C_{12}H_{18}SO_3$: C, 59.47; H, 7.49; S, 13.23. Found: C, 59.77; H, 7.69; S, 13.08.

E-2-(4-isobutylphenyl)ethenesulfonamide (4); (table2, entry a) Anal. Calcd for $C_{12}H_{17}NSO_2$: C, 60.22; H, 7.16; N, 5.85; S, 13.40. Found: C, 60.02; H, 7.31; N, 5.74; S, 13.47.

1-chloro-1-(4-isobutylphenyl)ethane (2): Anal. Calcd for $C_{12}H_{17}Cl$: C, 73.27; H, 8.71. Found: C, 73.58; H, 8.56.

4-Isobutylstyrene (5): Anal. Calcd for $C_{12}H_{16}$: C, 89.93; H, 10.07. Found: C, 90.03; H, 10.27.

2-(4-Isobutylphenyl)-2-chloro-1-ethanesulfonamide (7): Anal. Calcd for $C_{12}H_{18}NSO_2Cl$: C, 52.26; H, 6.58; N, 5.08; S, 11.62. Found: C, 51.86; H, 6.73; N, 5.10; S, 11.82.

E-2-(4-isobutylphenyl)ethene-N-benzylsulfonamide (entry b): Anal. Calcd for $C_{19}H_{23}NSO_2$: C, 69.26; H, 7.04; N, 4.25; S, 9.73. Found: C, 69.56; H, 7.35; N, 4.50; S, 10.13.

E-2-(4-isobutylphenyl)ethene-N,N-dimethylsulfonamide (entry c): Anal. Calcd for $C_{14}H_{21}NSO_2$: C, 62.88; H, 7.92; N, 5.24; S, 11.99. Found: C, 63.18; H, 8.12; N, 4.89; S, 12.39.

E-2-(4-isobutylphenyl)ethene-N-[3-(N,N-dimethylamino)propyl]sulfonamide (entry d): Anal. Calcd for $C_{17}H_{28}N_2SO_2$: C, 62.92; H, 8.70; N, 8.63; S, 9.88. Found: C, 63.15; H, 8.50; N, 9.00; S, 10.03.

E-2-(4-isobutylphenyl)-1-methylethenesulfonamide (entry e): Anal. Calcd for $C_{13}H_{19}NSO_2$: C, 61.63; H, 7.56; N, 5.53; S, 12.65. Found: C, 61.43; H, 7.16; N, 5.83; S, 12.90.

E-2-(4-isobutylphenyl)-1-ethylethenesulfonamide (entry f): Anal. Calcd for $C_{14}H_{21}NO_2S$: C, 62.89; H, 7.92; N, 5.24; S, 11.99. Found: C, 63.05; H, 7.80; N, 5.46; S, 12.00.

E-2-phenylethenesulfonamide (entry g): Anal. Calcd for $C_8H_9NSO_2$: C, 52.44; H, 4.95; N, 7.64; S, 17.50. Found: C, 52.34; H, 4.75; N, 8.04; S, 17.70.

E-2-(3-isopropylphenyl)ethenesulfonamide (entry h): Anal. Calcd for $C_{11}H_{15}NO_2S$: C, 58.64; H, 6.71; N, 6.22; S, 14.23. Found: C, 58.80; H, 6.50; N, 6.45; S, 14.23.

E-2-(4-benzylphenyl)ethenesulfonamide (entry i): Anal. Calcd for $C_{15}H_{15}NO_2S$: C, 65.91; H, 5.53; N, 5.12; S, 11.73. Found: C, 66.02; H, 5.45; N, 5.44; S, 11.60.

***E*-2-(4-Chlorophenyl)ethenesulfonamide (entry j):** Anal. Calcd for $C_8H_8ClNO_2S$: C, 44.14; H, 3.70; N, 6.43; S, 14.73. Found: C, 44.30; H, 3.55; N, 6.60; S, 14.65.

1-(4-isobutyl)-2,2-dimethylstyrene (8): Anal. Calcd for $C_{14}H_{20}$: C, 89.29; H, 10.71. Found: C, 89.59; H, 10.52.

1-(4-isobutylphenyl)-1-chloro-2,2-dimethylpropane (9): Anal. Calcd for $C_{15}H_{23}Cl$: C, 75.46; H, 9.71. Found: C, 75.59; H, 9.53.