**Supplementary Material**

**Table S.1. *Q-e* Values of monomers** (Greenley, 1999*b*)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S.No.** | Monomer | ***Q*** | ***e*** | **S.No.** | Monomer | ***Q*** | ***e*** |
| 1 | Acetylene, phenyl- | 0.45 | 0.1 | 64 | Methacrylate, 2-(sulfonic acid)ethyl | 1.09 | 0.25 |
| 2 | Aconitate, trimethyl | 0.25 | 2.27 | 65 | Methacrylate, benzyl | 0.88 | 0.35 |
| 3 | Acetylene, phenyl- | 0.45 | 0.1 | 66 | Methacrylate, butyl | 0.82 | 0.28 |
| 4 | Acrolein | 0.8 | 1.31 | 67 | Methacrylate, ethyl | 0.76 | 0.17 |
| 5 | Acrolein, methyl- | 1.83 | 0.71 | 68 | Methacrylate, glycidyl | 0.96 | 0.2 |
| 6 | Acrylamide | 0.23 | 0.54 | 69 | Methacrylate, isobutyl | 0.82 | 0.27 |
| 7 | Acrylamide, N-methylol- | 0.52 | 1.15 | 70 | Methacrylate, isopropyl | 0.97 | 0.1 |
| 8 | Acrylamide, N-octadecyl- | 0.66 | 1.64 | 71 | Methacrylate, methyl | 0.78 | 0.4 |
| 9 | Acrylamide,N,N-diethyl | 0.48 | -0.31 | 72 | Methacrylate, phenyl | 1.25 | 0.79 |
| 10 | Acrylate, a-acetoxy-, ethyl | 0.52 | 0.77 | 73 | Methacrylic acid | 0.98 | 0.62 |
| 11 | Acrylate, a-chloro-, ethyl | 1 | -1.03 | 74 | Methacrylic anhydride | 3 | 0.56 |
| 12 | Acrylate, butyl | 0.38 | 0.85 | 75 | Methacrylonitrile | 0.86 | 0.68 |
| 13 | Acrylate, ethyl | 0.41 | 0.55 | 76 | Methacryloyl chloride | 2.04 | 1.54 |
| 14 | Acrylate, glycidyl | 0.48 | 1.28 | 77 | Norbornadiene | 0.051 | -1.48 |
| 15 | Acrylate, heptafluorobutyl | 0.96 | 1.34 | 78 | Oxazoline, 2-isopropenyl-2- | 0.59 | -0.64 |
| 16 | Acrylate, octyl | 3.63 | 5.01 | 79 | Oxazoline, 2,-2-isopropenyl-4,4-dimethyl- | 0.87 | 0.34 |
| 17 | Acrylate,2-chloroethyl | 0.49 | 1.03 | 80 | Pentadiene, trans-1,3- | 1.28 | -0.13 |
| 18 | Acrylate, 2-ethylhexyl | 0.37 | 0.24 | 81 | Phosphonate, a-carbomethoxyvinyl-, diethyl | 0.14 | -0.04 |
| 19 | Acrylate,2-nitrobutyl | 0.69 | 1.09 | 82 | Phosphonate, isopropenyl-, dimethyl | 0.032 | 0.96 |
| 20 | Acrylic acid | 0.83 | 0.88 | 83 | Phosphonate, vinyl-, diethyl | 0.27 | -0.4 |
| 21 | Acrylonitrile | 0.48 | 1.23 | 84 | Pyridine, 2-vinyl-\* | 1.41 | -0.42 |
| 22 | Acryloyl chloride | 1.82 | 1.92 | 85 | Pyridine, 2-methyl-5-vinyl- | 1.32 | -0.66 |
| 23 | Allyl acrylate | 0.32 | -0.99 | 86 | Quinoline, 2-vinyl | 1.04 | -0.09 |
| 24 | Allyl chloride | 0.026 | -0.6 | 87 | Silane,y-methacryloxypropyltrimethoxy- | 1.08 | 0.07 |
| 25 | Butadiene | 1.7 | -0.5 | 88 | Styrene | 1 | -0.8 |
| 26 | Butadiene, 2,3-dimethyl- | 1.42 | -0.43 | 89 | Styrene,a-methyl- | 0.97 | -0.81 |
| 27 | Butadiene, hexafluoro- | 0.82 | 0.58 | 90 | Styrene, m-bromo- | 1.25 | -0.27 |
| 28 | Butadiene, 2-chloro- | 10.52 | 1.2 | 91 | Styrene,m-methyl- | 1.57 | -0.03 |
| 29 | Butadiene, 2-fluoro | 1.88 | 0.63 | 92 | Styrene, p-chloro- | 1.33 | -0.64 |
| 30 | Carbamate, N-vinyl-, ethyl | 0.037 | -1.12 | 93 | Styrene, p-chloromethyl- | 1.39 | -0.38 |
| 31 | Carbazole, N-vinyl- | 0.26 | -1.29 | 94 | Styrene,p-1-(2-hydroxybutyl)- | 0.7 | -0.97 |
| 32 | Carbon Monoxide | 0.013 | 1.68 | 95 | Succinimide, N-vinyl- | 0.19 | -1.4 |
| 33 | Citraconimide,N-methyl- | 0.87 | 1.58 | 96 | Tetrazole, l-vinyl- | 0.13 | -0.14 |
| 34 | Diallyl phthalate | 0.031 | -0.26 | 97 | Tetrazole, 2-methyl-5-vinyl- | 0.55 | -0.46 |
| 35 | Diallycyanamide | 0.14 | 2.41 | 98 | Tetrazole, 2-methyl-5-(4’-vinyl)phenyl- | 0.86 | 0.51 |
| 36 | Ethylene | 0.016 | 0.05 | 99 | Triallyl citrate | 0.054 | 0.26 |
| 37 | Ethylene-1, 1-diphenyl- | 0.17 | -1.71 | 100 | Vinyl 4chlorocyclohexyl ketone | 0.66 | -0.82 |
| 38 | Ethylene,chlorotrifluoro- | 0.026 | 1.56 | 101 | Vinyl acetate | 0.026 | -0.88 |
| 39 | Fumarate, diethyl | 0.78 | 0.4 | 102 | Vinyl chloride | 0.056 | 0.16 |
| 40 | Hexatriene, tetrachloro | 1.83 | 0.94 | 103 | Vinyl cinnamate | 0.18 | 0.76 |
| 41 | Imidazole, 1-vinyl-2-methyl- | 0.14 | -0.98 | 104 | Vinyl dodecyl ether | 0.041 | -1.69 |
| 42 | Isobutylene | 0.023 | -1.2 | 105 | Vinylferrocene | 0.31 | -1.34 |
| 43 | Isoprene | 1.99 | -0.55 | 106 | Vinyl fluoride | 0.008 | 0.72 |
| 44 | Isoprene, 3-acetoxy- | 1.91 | -0.11 | 107 | Vinyl formate | 0.043 | -1.19 |
| 45 | Isopropenyl acetate | 0.023 | -0.94 | 108 | Vinyl hendecanoate | 0.056 | -0.84 |
| 46 | Isopropenyl, 3-( 1-cyclohexenyl), acetate | 0.57 | -0.66 | 109 | Vinyl isothiocyanate | 0.59 | 0.37 |
| 47 | Isopropenylisocyanate | 0.18 | -1.05 | 110 | Vinyl laurate | 0.011 | -0.54 |
| 48 | Itaconate, dibutyl | 0.82 | 0.57 | 111 | Vinyl-m-cresyl ether | 0.016 | -6.33 |
| 49 | Itaconate, diethyl | 1.04 | 0.88 | 112 | Vinyl o-cresyl ether | 0.01 | -8.53 |
| 50 | Itaconate, dimethyl | 0.73 | 0.57 | 113 | Vinylhydroquinone dibenzoate | 1.73 | 0.84 |
| 51 | Maleate, diethyl | 0.053 | 1.08 | 114 | Vinyl phenyl ether | 0.046 | -2.16 |
| 52 | Maleic anhydride | 0.86 | 3.69 | 115 | Vinyl propionate | 0.027 | -0.68 |
| 53 | Maleimide, 2,3-dimethyl-N-(2-methacryloxyethyl)- | 2.54 | 1.64 | 116 | Vinyl, p-, benzylethylcarbinol | 0.69 | -0.98 |
| 54 | Maleimide, N-(2-chlorophenyl)- | 2.29 | 2.87 | 117 | p-Vinylbenzoic acid | 5.17 | 1.08 |
| 55 | Maleimide, N-(4-chlorophenyl)- | 2.98 | 2.75 | 118 | Vinyl Methyl Ketone | 0.66 | 1.05 |
| 56 | Methacrylate, 2,2,6,6-tetra-methyl-4-piperidinyl | 0.52 | -1.09 | 119 | Vinylidene chloride | 0.31 | 0.34 |
| 57 | Methacrylate, 2,3-epithio-propyl | 1.04 | 0.29 | 120 | Vinyl phenyl ketone | 1.16 | 1.02 |
| 58 | Methacrylate, 2-acetoxyethyl | 0.6 | 0.51 | 121 | Vinyl-tris(trimethoxysiloxy)silane | 0.022 | -0.12 |
| 59 | Methacrylate, 2-bromoethyl | 1.18 | 0.74 | 122 | ethyl N,N-tetramethylbis(phosphonate)-bis(methylene) amine methylmethacrylate | 1.12 | 0.72 |
| 60 | Methacrylate, 2-chloroethyl | 1.04 | 0.31 | 123 | propyl N,N-tetramethylbis(phosphonate)-bis(methylene) amine methylmethacrylate | 1.06 | 0.59 |
| 61 | Methacrylate, 2-hydroxyethyl | 1.78 | -0.39 | 124 | pentyl N,N-tetramethylbis(phosphonate)-bis(methylene) amine methylmethacrylate | 1.17 | 0.46 |
| 62 | Methacrylate, 2-hydroxypropyl | 4.38 | 1.86 | 125 | hexyl N,N-tetramethylbis (phosphonate)-bis(methylene) amine  methylmethacrylate | 1.07 | 0.57 |
| 63 | Methacrylate, 2-naphthyl | 1.04 | -0.09 | 126 | undecyl N,N-tetramethylbis(phosphonate)-bis(methylene) amine methylmethacrylate | 0.98 | 0.35 |