**Tables:**

Table 1 Thermodynamic dissociation constants of selected drugs studied in our laboratory at two temperatures.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index | Drug | 298.15 K | | 310.15 K | Δ*H*0  kJ/mol | Δ*S*0 (298.15 K)  J/mol | | Δ*G*0 (298.15 K)  kJ/mol | | Ref. | |
| 1a | 7-ethyl-10-hydroxycampthothecine | 3.11 | | 2.46 | 95.9 | 262.1 | | 17.7 | | [8] | |
| 1b |  | 8.91 | | 8.74 | 25.1 | -86.4 | | 50.8 | | [8] | |
| 1c |  | 9.70 | | 9.47 | 33.9 | -71.8 | | 55.3 | | [8] | |
| 2a | 7-ethylcamptothecine | 3.10 | | 3.30 | -29.5 | -158.3 | | 17.6 | | [8] | |
| 2b |  | 9.94 | | 10.98 | -153.4 | -704.8 | | 56.7 | | [8] | |
| 3a | 10-hydroxycampthothecine | 2.93 | | 2.84 | 13.3 | -11.5 | | 16.7 | | [8] | |
| 3b |  | 8.93 | | 8.92 | 1.5 | -166.0 | | 50.9 | | [8] | |
| 3c |  | 9.45 | | 9.98 | -78.2 | -443.1 | | 53.9 | | [8] | |
| 4 | Acetylsalicylic acid | 3.49 | | 3.41 | 11.8 | -27.2 | | 19.9 | | [19] | |
| 5a | Alendronate | 2.60 | | 2.76 | -23.6 | -128.9 | | 14.8 | | [17] | |
| 5b |  | 6.73 | | 6.77 | -5.9 | -148.6 | | 38.4 | | [17] | |
| 5c |  | 11.51 | | 11.29 | 32.4 | -111.4 | | 65.6 | | [17] | |
| 5d |  | 12.44 | | 11.82 | 91.4 | 68.6 | | 71.0 | | [17] | |
| 6a | Ambroxol | 8.05 | | 8.25 | -29.5 | -253.1 | | 45.9 | | [1] | |
| 6b |  | 11.67 | | 11.83 | -23.6 | -302.6 | | 66.6 | | [1] | |
| 7a | Antazoline | 7.79 | | 7.83 | -5.9 | -168.9 | | 44.4 | | [1] | |
| 7b |  | 9.74 | | 9.55 | 28.0 | -92.4 | | 55.5 | | [1] | |
| 8 | Azathioprine | 8.07 | | 7.83 | 35.1 | -36.7 | | 46.0 | | [18] | |
| 9a | Butamirate dihydrogencitrate | 4.51 | | 4.62 | -16.2 | -140.7 | | 25.7 | |  | |
| 9b |  | 6.01 | | 6.19 | -26.5 | -204.1 | | 34.3 | |  | |
| 9c |  | 9.72 | | 9.44 | 41.3 | -47.5 | | 55.4 | |  | |
| 10a | Butorphanol | 9.46 | | 8.99 | 69.9 | 53.3 | | 54.0 | | [13] | |
| 10b |  | 9.64 | | 9.34 | 43.9 | -3.1 | | 55.0 | | [13] | |
| 11a | Capecitabine(sp) | 8.76 | | 8.62 | 20.65 | -98.4 | | 49.9 | | [14] | |
| 12 | Capecitabine(pot) | 8.97 | | 8.74 | 33.92 | -57.9 | | 51.1 | | [14] | |
| 13a | Camptothecine | 2.90 | | 3.02 | -17.7 | -114.8 | | 16.5 | | [8] | |
| 13b |  | 10.18 | | 10.23 | -7.3 | -219.6 | | 58.1 | | [8] | |
| 14 | Clotrimazole | 4.38 | | 4.16 | 32.4 | 25.0 | | 24.9 | | [19] | |
| 15 | Diclofenac sodium | 4.24 | | 4.41 | -25.0 | -165.2 | | 24.2 | | [6] | |
| 16 | Flurbiprofen | 4.17 | | 4.38 | -30.9 | -183.7 | | 23.8 | | [6] | |
| 17 | Galanthamine | 8.21 | | 7.99 | 32.4 | -48.3 | | 46.8 | | [19] | |
| 18 | Haemanthamine | 7.22 | | 7.05 | 25.0 | -54.1 | | 41.2 | | [2] | |
| 19a | Chinine | 4.25 | | 4.12 | 19.1 | -17.0 | | 24.2 | | [3] | |
| 19b |  | 8.72 | | 8.46 | 38.3 | -38.2 | | 49.7 | | [3] | |
| 20a | Ibandronate | 2.33 | | 2.5 | -25.0 | -128.7 | | 13.2 | | [17] | |
| 20b |  | 6.31 | | 6.37 | -8.8 | -150.4 | | 36.0 | | [17] | |
| 20c |  | 10.74 | | 10.65 | 13.2 | -161.0 | | 61.3 | | [17] | |
| 21 | Ibuprofen | 4.38 | | 4.51 | -19.2 | -148.1 | | 24.9 | | [6] | |
| 22 | Ketoprofen | 4.07 | | 3.87 | 29.5 | 21.0 | | 23.2 | | [6] | |
| 23 | Lisuride | 7.87 | | 7.59 | 41.3 | -12.1 | | 44.9 | | [2] | |
| 24a | Losartan | 3.63 | | 3.57 | 8.8 | -39.8 | | 20.7 | | [3] | |
| 24b |  | 4.84 | | 4.8 | 5.9 | -72.8 | | 27.6 | | [3] | |
| 25 | Metergoline | 7.62 | | 7.38 | 35.4 | -27.1 | | 43.4 | | [2] | |
| 26a | Methotrexate | 2.89 | | 3.09 | -28.6 | -151.4 | | 16.5 | | [12] | |
| 26b |  | 4.41 | | 4.39 | 2.6 | -75.5 | | 24.1 | | [12] | |
| 26c |  | 5.73 | | 5.58 | 20.8 | -39.8 | | 32.6 | | [12] | |
| 27 | Mycophenolate mofetil | 8.29 | | 8.16 | 19.1 | -94.3 | | 47.3 | | [21] | |
| 28 | Mycophenolate sodium | 8.32 | | 8.14 | 26.5 | -70.2 | | 47.4 | | [21] | |
| 29 | Naphazoline nitrate (sp) | 10.81 | | 10.63 | 26.5 | -117.8 | | 61.7 | | [1] | |
| 30 | Naphazoline nitrate (pot) | 10.41 | | 10.13 | 41.3 | -60.7 | | 59.4 | | [15] | |
| 31 | Nicergoline | 7.94 | | 7.69 | 36.8 | 28.3 | | 45.3 | | [2] | |
| 32a | Oxymetazoline HCl | 10.62 | | 10.77 | -22.1 | -277.5 | | 60.6 | | [1] | |
| 32b |  | 12.03 | | 11.82 | 30.9 | -126.3 | | 68.6 | | [1] | |
| 33 | Papaverine | 6.42 | | 6.25 | 25.1 | -38.7 | | 36.6 | |  | |
| 34 | Paracetamol | 9.78 | | 9.65 | 19.2 | -122.9 | | 55.8 | | [3] | |
| 35a | Phenylephrine HCl | 9.17 | | 8.95 | 32.4 | -66.6 | | 52.3 | | [3] | |
| 35b |  | 10.45 | | 10.22 | 33.9 | -85.2 | | 59.6 | | [3] | |
| 36a | Physostigmine | 2.93 | | 2.61 | 47.2 | 102.2 | | 16.7 | | [16] | |
| 36b |  | 3.95 | | 3.79 | 23.6 | 3.5 | | 22.5 | | [16] | |
| 36c |  | 8.43 | | 8.05 | 56.0 | 26.6 | | 48.1 | | [16] | |
| 36d |  | 10.04 | | 10.54 | -7.3 | -439.5 | | | 57.3 | | [16] | |
| 37 | Ranitidine HCl | | 1.89 | 1.77 | 17.7 | | 23.1 | 10.7 | | [1] | | | |
| 38 | Rasagiline base | | 7.12 | 7.01 | 16.2 | | -81.8 | 40.6 | | [11] | | | |
| 39 | Rasagiline mesylate | | 7.07 | 7.05 | 2.9 | | -125.4 | 40.3 | | [11] | | | |
| 40a | Risendronate (sp) | | 2.37 | 2.44 | -10.3 | | -80.0 | 13.5 | |  | | | |
| 40b |  | | 6.29 | 6.26 | 4.4 | | -105.5 | 35.9 | |  | | | |
| 40c |  | | 7.48 | 7.46 | 2.9 | | -133.2 | 42.6 | |  | | | |
| 40d |  | | 9.31 | 8.70 | 89.9 | | 123.5 | 53.1 | |  | | | |
| 41a | Risendronate (pot) | | 2.48 | 2.43 | 7.3 | | -22.7 | 14.1 | |  | | | |
| 41b |  | | 6.12 | 6.10 | 2.9 | | -107.2 | 34.9 | |  | | | |
| 41c |  | | 7.25 | 7.23 | 2.9 | | -128.8 | 41.3 | |  | | | |
| 41d |  | | 12.04 | 11.81 | 33.9 | | -116.6 | 68.7 | |  | | | |
| 42 | Salicylic acid | | 3.01 | 3.00 | 1.4 | | -52.6 | 17.1 | | [19] | | | |
| 43a | Silybin | | 7.00 | 6.86 | 20.6 | | -64.7 | 39.9 | | [21] | | | |
| 43b |  | | 8.77 | 8.77 | 0 | | -167.8 | 50.0 | | [21] | | | |
| 43c |  | | 9.57 | 9.62 | -7.3 | | -207.9 | 54.6 | | [21] | | | |
| 43d |  | | 11.66 | 11.38 | 41.6 | | -84.6 | 66.5 | | [21] | | | |
| 44a | Silydianin | | 6.64 | 7.10 | -67.8 | -354.7 | | 37.8 | | | [21] | | | |
| 44b |  | | 7.78 | 8.93 | -16.9 | -717.9 | | 44.4 | | | [21] | | | |
| 44c |  | | 9.66 | 10.06 | -59.0 | -382.8 | | 55.1 | | | [21] | | | |
| 44d |  | | 10.71 | 10.77 | -8.8 | -234.7 | | 61.1 | | | [21] | | | |
| 44e |  | | 12.26 | 12.14 | 17.7 | -175.3 | | 69.9 | | | [21] | | | |
| 45a | Silychristin | | 6.52 | 6.62 | -14.7 | -174.2 | | 37.2 | | | [21] | | | |
| 45b |  | | 7.22 | 7.41 | -28.0 | -232.2 | | 41.2 | | | [21] | | | |
| 45c |  | | 8.96 | 8.94 | 2.9 | -161.6 | | 51.1 | | | [21] | | | |
| 45d |  | | 10.17 | 10.03 | 20.6 | -125.4 | | 58.0 | | | [21] | | | |
| 45e |  | | 11.89 | 11.63 | 38.3 | -98.9 | | 67.8 | | | [21] | | | |
| 46 | Terbinafine HCl | | 4.19 | 4.12 | 10.3 | -45.5 | | 23.9 | | | [19] | | | |
| 47 | Zolpidem | | 6.335 | 6.137 | 29.2 | -23.3 | | 36.1 | | | [13] | | | |