

# Supplementary Material

## Linear relationships between partition coefficients of different organic compounds and proteins in aqueous two-phase systems of various polymer and ionic compositions

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*Materials and Methods*

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**Table S2.** Partition coefficients and logarithms of partition coefficients for various proteins in aqueous two-phase systems of various compositions (NaPB – sodium phosphate buffer, K/NaPB – sodium/potassium phosphate buffer)

**Table S3.** Logarithms of distribution coefficients for various drugs in octanol-buffer systems of various ionic compositions (NaPB – sodium phosphate buffer, UB - Universal buffer composed of 0.01M or 0.10M each of phosphoric, boric, and acetic acids adjusted to pH 7.4 with NaOH)

**Table S4.** Logarithms of partition coefficients of drugs between blood and various tissues in rats *in vivo* (data from [S16])

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**Table S1.** Partition coefficients and logarithms of partition coefficients for small organic compounds in aqueous two-phase systems of various compositions (NaPB – sodium phosphate buffer, K/NaPB – sodium/potassium phosphate buffer)

| Ref | # ATPS | Polymer-1        | Polymer-2        | Salt         | salt additive | Buffer        | pH  | Osmolyte       | DNP-AP | DNP-n-val | DNP-n-leu | DNP-AP | 4-Aminophenol | Benzyl alcohol | Caffeine | Coumarin | Glucoside | Phenol | Methyl anthranilate | 2-Phenylethanol | Vanillin | Adenine | AMP | ADP | ATP | Adenosine |
|-----|--------|------------------|------------------|--------------|---------------|---------------|-----|----------------|--------|-----------|-----------|--------|---------------|----------------|----------|----------|-----------|--------|---------------------|-----------------|----------|---------|-----|-----|-----|-----------|
| S1  | 1      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 |                | 4.43   | 5.43      | 7.15      | 13.93  |               | 4.067          | 2.11     | 4.86     | 2.47      | 6.5    | 9.59                | 4.98            | 8.28     |         |     |     |     |           |
| S1  | 2      | 11.10% PEG-10000 |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 |                | 3.99   | 5.36      | 6.88      | 14.01  |               | 4.146          | 2.356    | 4.55     | 2.916     | 6.54   | 9.58                | 5.05            | 8.31     |         |     |     |     |           |
| S1  | 3      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 | 0.5 M sorbitol | 5.12   | 7.68      | 10.23     | 23.6   |               | 6.08           | 2.72     | 8.23     | 3.957     | 10.6   | 14.8                | 7.39            | 13.03    |         |     |     |     |           |
| S1  | 4      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 | 0.5 M sucrose  | 5.09   | 7.87      | 10.81     | 25.94  |               | 6.01           | 2.55     | 8.46     | 4.05      | 11.42  | 15.42               | 13.22           | 19.7     |         |     |     |     |           |
| S1  | 5      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 | 0.5 M TMAO     | 4.71   | 7.6       | 10.49     | 20.88  |               | 4.71           | 2.819    | 6.27     | 3.41      | 7.38   | 11.77               | 5.6             | 7.58     |         |     |     |     |           |
| S2  | 6      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 |                | 0.986  | 1.077     | 1.131     | 1.308  |               | 1.547          | 1.154    | 1.611    | 1.222     | 1.932  | 1.929               | 1.592           | 1.702    |         |     |     |     |           |
| S2  | 7      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M sorbitol | 1.1    | 1.277     | 1.3       | 1.557  |               | 1.63           | 1.176    | 1.742    | 1.31      | 2.116  | 2.135               | 1.779           | 1.939    |         |     |     |     |           |
| S2  | 8      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose  | 1.144  | 1.251     | 1.346     | 1.624  |               | 1.722          | 1.184    | 1.777    | 1.35      | 2.346  | 2.218               | 1.846           | 1.987    |         |     |     |     |           |
| S2  | 9      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO     | 1.563  | 1.208     | 1.17      | 1.372  |               | 1.563          | 1.208    | 1.66     | 1.26      | 1.906  | 1.932               | 1.667           | 1.641    |         |     |     |     |           |
| S2  | 10     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO     | 1.11   | 1.271     | 1.406     | 1.722  |               | 1.551          | 1.311    | 1.923    | 1.36      | 1.998  | 2.467               | 1.701           | 1.818    |         |     |     |     |           |
| S2  | 11     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 |                | 0.959  | 1.029     | 1.092     | 1.249  |               | 1.62           | 1.197    | 1.669    | 1.249     | 1.909  | 1.985               | 1.663           | 1.653    |         |     |     |     |           |
| S2  | 12     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose  | 0.966  | 1.064     | 1.154     | 1.393  |               | 1.767          | 1.266    | 1.974    | 1.396     | 1.233  | 2.453               | 1.895           | 1.973    |         |     |     |     |           |
| S2  | 13     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose  | 0.971  | 1.074     | 1.17      | 1.419  |               | 1.857          | 1.246    | 1.977    | 1.409     | 2.396  | 2.581               | 2.035           | 2.047    |         |     |     |     |           |
| S2  | 14     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO     | 0.965  | 1.059     | 1.142     | 1.361  |               | 1.586          | 1.252    | 1.781    | 1.303     | 1.939  | 2.13                | 1.726           | 1.591    |         |     |     |     |           |
| S2  | 15     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO     | 0.994  | 1.175     | 1.346     | 1.854  |               | 1.855          | 1.432    | 2.445    | 1.515     | 2.265  | 3.099               | 2.034           | 1.778    |         |     |     |     |           |
| S2  | 16     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaClO4 | 0.01 M NaPB   | 6.8 |                | 3.511  | 5.19      | 7.15      | 13.9   |               | 6.08           | 2.582    | 10.74    | 2.897     | 9.92   | 18.6                | 8.19            | 12.47    |         |     |     |     |           |
| S2  | 17     | 11.10% PEG-10000 |                  | 6.33% Na2SO4 | 0.215M NaClO4 | 0.01 M NaPB   | 6.8 |                | 3.67   | 5.36      | 7.24      | 15     |               | 5.8            | 2.99     | 10.3     | 3.3       | 8.63   | 15.9                | 7.33            | 12.4     |         |     |     |     |           |
| S2  | 18     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaClO4 | 0.01 M NaPB   | 6.8 | 0.5 M sorbitol | 4.02   | 6.1       | 8.61      | 19.1   |               | 8              | 3.5      | 15.2     | 4.15      | 11.8   | 29.5                | 9.45            | 19.1     |         |     |     |     |           |
| S2  | 19     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaClO4 | 0.01 M NaPB   | 6.8 | 0.5 M sucrose  | 3.485  | 5.4       | 7.73      | 17.73  |               | 6.4            | 2.938    | 12.08    | 3.86      | 12.43  | 21.6                | 9.67            | 14.9     |         |     |     |     |           |
| S2  | 20     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaClO4 | 0.01 M NaPB   | 6.8 | 0.5 M TMAO     | 3.91   | 6.07      | 8.2       | 18     |               | 6.24           | 3.47     | 12.8     | 3.64      | 8.85   | 12.8                | 7.69            | 8.64     |         |     |     |     |           |
| S3  | 21     | 12.9% Dex-70     | 18.1% Ficoll-70  |              |               | 0.01 M NaPB   | 7.4 |                | 1.16   | 1.444     | 1.127     | 1.29   |               | 1.37           | 1.044    | 1.127    | 1.29      | 1.365  | 1.117               | 1.308           |          |         |     |     |     |           |
| S3  | 22     | 13.67% Dex-70    | 6.15% PEG-4000   |              |               | 0.01 M NaPB   | 7.4 |                | 1.37   | 1.378     | 1.122     | 1.69   |               | 1.64           | 1.044    | 1.127    | 1.29      | 1.365  | 1.117               | 1.308           |          |         |     |     |     |           |
| S3  | 23     | 20.0% Dex-70     | 13.50% PEG-1000  |              |               | 0.01 M NaPB   | 7.4 |                | 1.6    | 1.6       | 1.213     | 2      |               | 1.6            | 1.6      | 1.213    | 2         | 2.065  | 1.63                | 2.15            |          |         |     |     |     |           |
| S3  | 24     | 16.23% Dex-70    | 16.87% PEG-600   |              |               | 0.01 M NaPB   | 7.4 |                | 1.351  | 1.32      | 1.1       | 1.697  |               | 1.351          | 1.32     | 1.1      | 1.697     | 1.54   | 1.37                | 1.59            |          |         |     |     |     |           |
| S3  | 25     | 12.39% Dex-70    | 10.08% Ucon-4000 |              |               | 0.01 M NaPB   | 7.4 |                | 2.09   | 2.55      | 1.508     | 3.16   |               | 2.09           | 2.55     | 1.508    | 3.16      | 3.34   | 1.93                | 3.19            |          |         |     |     |     |           |
| S3  | 26     | 22.99% Ficoll-70 | 9.90% PEG-10000  |              |               | 0.01 M NaPB   | 7.4 |                | 1.834  | 1.263     | 1.059     | 1.7    |               | 1.834          | 1.263    | 1.059    | 1.7       | 1.46   | 1.46                | 1.572           |          |         |     |     |     |           |
| S3  | 27     | 24.67% Ficoll-70 | 10.42% PEG-8000  |              |               | 0.01 M NaPB   | 7.4 |                | 1.553  | 1.363     | 1.099     | 1.84   |               | 1.553          | 1.363    | 1.099    | 1.84      | 1.572  | 1.572               | 1.572           |          |         |     |     |     |           |
| S3  | 28     | 23.08% Ficoll-70 | 9.87% PEG-6000   |              |               | 0.01 M NaPB   | 7.4 |                | 1.361  | 1.195     | 1.021     | 1.61   |               | 1.361          | 1.195    | 1.021    | 1.61      | 1.342  | 1.36                | 1.461           |          |         |     |     |     |           |
| S3  | 29     | 19.12% Ficoll-70 | 15.47% Ucon-4000 |              |               | 0.01 M NaPB   | 7.4 |                | 2.29   | 2.67      | 1.63      | 3.55   |               | 2.29           | 2.67     | 1.63     | 3.55      | 3.65   | 2.22                | 3.14            |          |         |     |     |     |           |
| S3  | 30     | 15.00% PEG-8000  | 29.97% Ucon-4000 |              |               | 0.01 M NaPB   | 7.4 |                | 2.21   | 2.92      | 2.22      | 3.35   |               | 2.21           | 2.92     | 2.22     | 3.35      | 4.41   | 2.43                | 2.59            |          |         |     |     |     |           |
| S3  | 31     | 12.9% Dex-70     | 18.1% Ficoll-70  |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.16   | 1.164     | 1.155     | 1.21   |               | 1.16           | 1.164    | 1.155    | 1.21      | 1.253  | 1.03                | 1.19            |          |         |     |     |     |           |
| S3  | 32     | 13.67% Dex-70    | 6.15% PEG-4000   |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.41   | 1.41      | 1.34      | 1.663  |               | 1.41           | 1.41     | 1.34     | 1.663     | 1.623  | 1.48                | 1.69            |          |         |     |     |     |           |
| S3  | 33     | 20.0% Dex-70     | 13.50% PEG-1000  |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.77   | 1.67      | 1.31      | 2.38   |               | 1.77           | 1.67     | 1.31     | 2.38      | 2.037  | 1.77                | 2.15            |          |         |     |     |     |           |
| S3  | 34     | 16.23% Dex-70    | 16.87% PEG-600   |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.44   | 1.37      | 1.175     | 1.64   |               | 1.44           | 1.37     | 1.175    | 1.64      | 1.49   | 1.4                 | 1.67            |          |         |     |     |     |           |
| S3  | 35     | 12.39% Dex-70    | 10.08% Ucon-4000 |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 2.245  | 2.51      | 1.61      | 3.23   |               | 2.245          | 2.51     | 1.61     | 3.23      | 3.52   | 2.4                 | 3.37            |          |         |     |     |     |           |
| S3  | 36     | 22.99% Ficoll-70 | 9.90% PEG-10000  |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.44   | 1.298     | 1.108     | 1.71   |               | 1.44           | 1.298    | 1.108    | 1.71      | 1.613  | 1.55                | 1.75            |          |         |     |     |     |           |
| S3  | 37     | 24.67% Ficoll-70 | 10.42% PEG-8000  |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.54   | 1.402     | 1.133     | 1.74   |               | 1.54           | 1.402    | 1.133    | 1.74      | 1.694  | 1.6                 | 1.9             |          |         |     |     |     |           |
| S3  | 38     | 23.08% Ficoll-70 | 9.87% PEG-6000   |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 1.31   | 1.17      | 1.07      | 1.63   |               | 1.31           | 1.17     | 1.07     | 1.63      | 1.478  | 1.4                 | 1.57            |          |         |     |     |     |           |
| S3  | 39     | 19.12% Ficoll-70 | 15.47% Ucon-4000 |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 2.34   | 2.94      | 1.87      | 3.82   |               | 2.34           | 2.94     | 1.87     | 3.82      | 4.81   | 2.5                 | 3.98            |          |         |     |     |     |           |
| S3  | 40     | 15.00% PEG-8000  | 29.97% Ucon-4000 |              | 0.15M NaCl    | 0.01 M NaPB   | 7.4 |                | 2.54   | 3.92      | 2.685     | 4.28   |               | 2.54           | 3.92     | 2.685    | 4.28      | 5.92   | 3.11                | 3.85            |          |         |     |     |     |           |
| S3  | 41     | 12.9% Dex-70     | 18.1% Ficoll-70  |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.18   | 1.358     | 1.21      | 1.41   |               | 1.18           | 1.358    | 1.21     | 1.41      | 1.463  | 1.36                | 1.475           |          |         |     |     |     |           |
| S3  | 42     | 13.67% Dex-70    | 6.15% PEG-4000   |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.649  | 1.684     | 1.242     | 2.004  |               | 1.649          | 1.684    | 1.242    | 2.004     | 2.015  | 1.46                | 1.94            |          |         |     |     |     |           |
| S3  | 43     | 20.0% Dex-70     | 13.50% PEG-1000  |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.85   | 2.11      | 1.347     | 2.438  |               | 1.85           | 2.11     | 1.347    | 2.438     | 2.78   | 2.71                | 2.87            |          |         |     |     |     |           |
| S3  | 44     | 16.23% Dex-70    | 16.87% PEG-600   |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.72   | 1.76      | 1.323     | 2.18   |               | 1.72           | 1.76     | 1.323    | 2.18      | 2.15   | 1.77                | 2.01            |          |         |     |     |     |           |
| S3  | 45     | 12.39% Dex-70    | 10.08% Ucon-4000 |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 2.85   | 3.6       | 2.03      | 5.14   |               | 2.85           | 3.6      | 2.03     | 5.14      | 6.54   | 2.32                | 5.11            |          |         |     |     |     |           |
| S3  | 46     | 22.99% Ficoll-70 | 9.90% PEG-10000  |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.72   | 1.549     | 1.178     | 2.15   |               | 1.72           | 1.549    | 1.178    | 2.15      | 1.8    | 1.69                | 2.05            |          |         |     |     |     |           |
| S3  | 47     | 24.67% Ficoll-70 | 10.42% PEG-8000  |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.79   | 1.686     | 1.25      | 2.316  |               | 1.79           | 1.686    | 1.25     | 2.316     | 2.1    | 1.54                | 2.168           |          |         |     |     |     |           |
| S3  | 48     | 23.08% Ficoll-70 | 9.87% PEG-6000   |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 1.643  | 1.499     | 1.15      | 1.931  |               | 1.643          | 1.499    | 1.15     | 1.931     | 1.84   | 1.65                | 1.79            |          |         |     |     |     |           |
| S3  | 49     | 19.12% Ficoll-70 | 15.47% Ucon-4000 |              | 0.10M Na2SO4  | 0.01 M NaPB   | 7.4 |                | 3.71   | 4.679     | 2.37      | 6.56   |               | 3.71           | 4.679    | 2.37     | 6.56      | 7.47   | 3.72                | 5.23            |          |         |     |     |     |           |
| S3  | 50     | 12.9% Dex-70     | 18.1% Ficoll-70  |              | 0.15M NaClO4  | 0.01 M NaPB   | 7.4 |                | 1.121  | 1.219     | 1.079     | 1.282  |               | 1.121          | 1.219    | 1.079    | 1.282     | 1.294  | 1.13                | 1.223           |          |         |     |     |     |           |
| S3  | 51     | 13.67% Dex-70    | 6.15% PEG-4000   |              | 0.15M NaClO4  | 0.01 M NaPB   | 7.4 |                | 1.48   | 1.54      | 1.214     | 1.81   |               | 1.48           | 1.54     | 1.214    | 1.81      | 1.828  | 1.46                | 1.758           |          |         |     |     |     |           |
| S3  | 52     | 20.0% Dex-70     | 13.50% PEG-1000  |              | 0.15M NaClO4  | 0.01 M NaPB   | 7.4 |                | 1.88   | 2.08      | 1.54      | 2.48   |               | 1.88           | 2.08     | 1.54     | 2.48      | 2.61   | 1.6                 | 2.51            |          |         |     |     |     |           |
| S3  | 53     | 16.23% Dex-70    | 16.87% PEG-600   |              | 0.15M NaClO4  | 0.01 M NaPB   | 7.4 |                | 1.6    | 1.61      | 1.303     | 1.91   |               | 1.6            | 1.61     | 1.303    | 1.91      | 2.03   | 1.52                | 1.83            |          |         |     |     |     |           |
| S3  | 54     | 12.39% Dex-70    | 10.08% Ucon-4000 |              | 0.15M NaClO4  | 0.01 M NaPB   | 7.4 |                | 1.85   | 2.31      | 1.585     | 2.48   |               | 1.85           | 2.31     | 1.585    | 2.48      | 3.69   | 2.66                | 3.62            |          |         |     |     |     |           |
| S3  | 55     | 22.99% Ficoll-70 | 9.90% PEG-10000  |              | 0.15M NaClO4  | 0.01 M NaPB   | 7.4 |                | 1.557  | 1.465     | 1.138     | 1.952  |               | 1              |          |          |           |        |                     |                 |          |         |     |     |     |           |

|      |      |      |      |
|------|------|------|------|
| 0.72 | 0.84 | 0.78 | 0.72 |
| 1.17 | 1.01 | 1    | 1.21 |
| 1.94 | 0.96 | 0.92 | 0.95 |
| 1.04 | 0.93 | 0.86 | 1.17 |

| logK <sub>ow</sub> | logK <sub>ow</sub> | logK <sub>ow</sub> | logK <sub>ow</sub> | logK <sub>ow</sub> | logK <sub>ow</sub> | logK <sub>ow</sub> |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 0.6093             | 0.3243             | 0.6866             | 0.3927             | 0.8129             | 0.9818             | 0.6972             |
| 0.7033             | 0.3722             | 0.658              | 0.4648             | 0.8156             | 0.9814             | 0.7033             |
| 0.7839             | 0.4346             | 0.9154             | 0.5974             | 1.0253             | 1.1703             | 0.8686             |
| 0.8202             | 0.4065             | 0.9274             | 0.6075             | 1.0781             | 1.2154             | 0.9304             |
| 0.7451             | 0.4071             | 0.9233             | 0.5881             | 1.0708             | 1.2078             | 0.7482             |
| 0.1856             | 0.0622             | 0.2071             | 0.0807             | 0.2386             | 0.2853             | 0.2010             |
| 0.2122             | 0.0704             | 0.2943             | 0.1178             | 0.3295             | 0.3294             | 0.2502             |
| 0.236              | 0.0734             | 0.2497             | 0.1303             | 0.3491             | 0.346              | 0.2662             |
| 0.194              | 0.0821             | 0.2201             | 0.1004             | 0.2801             | 0.286              | 0.2219             |
| 0.1915             | 0.1176             | 0.228              | 0.1335             | 0.3006             | 0.392              | 0.2207             |
| 0.2095             | 0.0781             | 0.2245             | 0.0966             | 0.2808             | 0.2978             | 0.2301             |
| 0.2472             | 0.1024             | 0.2953             | 0.1449             | 0.091              | 0.3897             | 0.2772             |
| 0.2608             | 0.0955             | 0.296              | 0.1489             | 0.3795             | 0.4118             | 0.3086             |
| 0.2683             | 0.0976             | 0.2507             | 0.1149             | 0.2876             | 0.3284             | 0.237              |
| 0.7839             | 0.1559             | 0.3883             | 0.1804             | 0.3551             | 0.4957             | 0.3084             |
| 0.7534             | 0.412              | 0.1125             | 0.0935             | 0.9965             | 1.2695             | 0.9133             |
| 0.8062             | 0.4575             | 0.10128            | 0.5185             | 0.936              | 1.3142             | 0.9841             |
| 0.7952             | 0.5441             | 0.1818             | 0.618              | 1.0719             | 1.4698             | 0.9754             |
| 0.8062             | 0.4681             | 0.0821             | 0.5866             | 1.0945             | 1.3345             | 0.9854             |
| 0.7552             | 0.5403             | 0.1072             | 0.5611             | 0.9469             | 1.1072             | 0.8859             |
| 0.645              | 0.0948             | 0.0519             | 0.1106             | 0.1024             | 0.1024             | 0.0682             |
| 0.1367             | 0.1392             | 0.05               | 0.2279             | 0.1995             | 0.1995             | 0.1703             |
| 0.3598             | 0.2041             | 0.0839             | 0.3301             | 0.3142             | 0.3142             | 0.3464             |
| 0.3201             | 0.1206             | 0.0414             | 0.2297             | 0.1875             | 0.1875             | 0.1367             |
| 0.3565             | 0.4065             | 0.1784             | 0.4997             | 0.5237             | 0.5237             | 0.2856             |
| 0.1912             | 0.1014             | 0.0249             | 0.2304             | 0.1644             | 0.1644             | 0.1644             |
| 0.1339             | 0.1345             | 0.041              | 0.2648             | 0.1959             | 0.1959             | 0.1719             |
| 0.3444             | 0.4265             | 0.2122             | 0.5502             | 0.1278             | 0.1278             | 0.1335             |
| 0.0645             | 0.4654             | 0.3464             | 0.525              | 0.6444             | 0.6444             | 0.3856             |
| 0.0645             | 0.066              | 0.0626             | 0.0828             | 0.098              | 0.098              | 0.0128             |
| 0.1492             | 0.1271             | 0.0438             | 0.2209             | 0.2103             | 0.2103             | 0.1703             |
| 0.248              | 0.2227             | 0.1173             | 0.3766             | 0.309              | 0.309              | 0.248              |
| 0.1584             | 0.1367             | 0.047              | 0.2148             | 0.1732             | 0.1732             | 0.1461             |
| 0.1875             | 0.3907             | 0.2008             | 0.5092             | 0.4665             | 0.4665             | 0.3854             |
| 0.4098             | 0.1133             | 0.045              | 0.2293             | 0.2076             | 0.2076             | 0.1903             |
| 0.1875             | 0.1467             | 0.0542             | 0.2405             | 0.2289             | 0.2289             | 0.2041             |
| 0.1239             | 0.0682             | 0.0294             | 0.2122             | 0.1697             | 0.1697             | 0.1461             |
| 0.3642             | 0.4693             | 0.2718             | 0.5821             | 0.6821             | 0.6821             | 0.3979             |
| 0.4098             | 0.3983             | 0.4289             | 0.6314             | 0.7723             | 0.7723             | 0.4928             |
| 0.0711             | 0.1329             | 0.0828             | 0.3492             | 0.1655             | 0.1655             | 0.1875             |
| 0.2172             | 0.2263             | 0.0941             | 0.3019             | 0.3043             | 0.3043             | 0.1644             |
| 0.2672             | 0.3243             | 0.1294             | 0.387              | 0.444              | 0.444              | 0.433              |
| 0.2355             | 0.2455             | 0.1216             | 0.3385             | 0.3324             | 0.3324             | 0.248              |
| 0.2448             | 0.5563             | 0.3075             | 0.711              | 0.8156             | 0.8156             | 0.3655             |
| 0.2156             | 0.1901             | 0.0711             | 0.3324             | 0.2553             | 0.2553             | 0.2279             |
| 0.2156             | 0.2269             | 0.0969             | 0.3647             | 0.3222             | 0.3222             | 0.1875             |
| 0.5599             | 0.1758             | 0.0607             | 0.2858             | 0.2648             | 0.2648             | 0.2175             |
| 0.0496             | 0.6702             | 0.3747             | 0.8169             | 0.8733             | 0.8733             | 0.5705             |
| 0.1703             | 0.086              | 0.033              | 0.1079             | 0.1119             | 0.1119             | 0.0531             |
| 0.2041             | 0.1875             | 0.0842             | 0.2577             | 0.262              | 0.262              | 0.1644             |
| 0.3636             | 0.3161             | 0.1875             | 0.3945             | 0.4616             | 0.4616             | 0.3909             |
| 0.1923             | 0.2058             | 0.1149             | 0.281              | 0.3075             | 0.3075             | 0.1818             |
| 0.2334             | 0.49               | 0.02               | 0.5943             | 0.6712             | 0.6712             | 0.4241             |
| 0.1923             | 0.1658             | 0.0561             | 0.2905             | 0.2529             | 0.2529             | 0.2049             |
| 0.2212             | 0.1967             | 0.0745             | 0.3304             | 0.2867             | 0.2867             | 0.2201             |
| 0.1776             | 0.1399             | 0.0611             | 0.2762             | 0.2201             | 0.2201             | 0.1703             |
| 0.3427             | 0.5105             | 0.2402             | 0.6743             | 0.7607             | 0.7607             | 0.3909             |
| 0.3324             | 0.4738             | 0.3054             | 0.4829             | 0.6284             | 0.6284             | 0.3909             |
| 0.5441             | 0.6866             | 0.3385             | 0.6628             | 0.8621             | 0.8621             | 0.6191             |
| 0.5502             | 0.2975             | 0.658              | 0.3811             | 0.6812             | 0.8627             | 0.5798             |
| 0.7292             | 0.3945             | 0.9154             | 0.5416             | 0.9465             | 1.1297             | 0.8241             |
| 0.7362             | 0.3962             | 0.9274             | 0.5734             | 1.0183             | 1.1526             | 0.8865             |
| 0.5866             | 0.3874             | 0.9015             | 0.5551             | 0.9939             | 1.1732             | 0.8219             |
|                    | 0.3892             | 0.7973             | 0.4579             | 0.7559             | 0.9571             | 0.673              |
|                    | 0.2704             | 0.3359             | 0.6864             |                    |                    |                    |
|                    | 0.2499             | 0.3795             | 0.7184             |                    |                    |                    |
|                    | 0.2442             | 0.3707             | 0.756              |                    |                    |                    |
|                    | 0.2327             | 0.3959             | 0.8129             |                    |                    |                    |
|                    | 0.2942             | 0.4401             | 0.9138             |                    |                    |                    |
|                    | 0.3758             | 0.5257             | 1.0792             |                    |                    |                    |
|                    | 0.387              | 0.651              | 1.301              |                    |                    |                    |

|        |     |                  |                  |                 |               |     |                 |          |          |           |         |         |         |         |        |        |
|--------|-----|------------------|------------------|-----------------|---------------|-----|-----------------|----------|----------|-----------|---------|---------|---------|---------|--------|--------|
| 55, 56 | 70  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.027M NaClO4   | 0.01 M NaPB   | 6.8 | 0.5297          | 0.3126   | 0.3705   | 0.7562    | 0.5172  | -0.041  | -0.2007 | -0.3372 | 0.4533 |        |
| 55, 56 | 71  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.054M NaClO4   | 0.01 M NaPB   | 6.8 | 0.5688          | 0.345    | 0.387    | 0.8202    | 0.5527  | -0.0969 | -0.2757 | -0.4318 | 0.4726 |        |
| 55, 56 | 72  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.108M NaClO4   | 0.01 M NaPB   | 6.8 | 0.617           | 0.3766   | 0.4298   | 0.8865    | 0.5775  | -0.1871 | -0.3979 | -0.585  | 0.4932 |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.216 M NaClO4  | 0.01 M NaPB   | 6.8 | 0.6612          | 0.4113   | 0.4606   | 0.9542    |         |         |         |         | 0.5062 |        |
| 55, 56 | 73  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.549M NaClO4   | 0.01 M NaPB   | 6.8 | 0.711           | 0.3929   | 0.4902   | 1.0414    | 0.6128  | -0.475  | -0.7212 | -0.9626 | 0.4944 |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 1.157M NaClO4   | 0.01 M NaPB   | 6.8 | 0.7603          | 0.3096   | 0.5344   | 1.2304    |         |         |         |         | 0.4252 |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 1.759 M NaClO4  | 0.01 M NaPB   | 6.8 | 0.7982          | 0.2114   | 0.5315   | 1.4472    |         |         |         |         | 0.3276 |        |
| 55, 56 | 74  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.025 M NaSCN   | 0.01 M NaPB   | 6.8 | 0.5402          | 0.3002   | 0.3619   | 0.7463    | 0.5145  | -0.0458 | -0.1959 | -0.3298 | 0.4412 |        |
| 55, 56 | 75  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.050 M NaSCN   | 0.01 M NaPB   | 6.8 | 0.568           | 0.3201   | 0.3908   | 0.8062    | 0.5465  | -0.0969 | -0.2676 | -0.4112 | 0.4613 |        |
| 55, 56 | 76  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.100 M NaSCN   | 0.01 M NaPB   | 6.8 | 0.6002          | 0.3551   | 0.4131   | 0.8692    | 0.5682  | -0.1688 | -0.3655 | -0.5376 | 0.4877 |        |
| 55, 56 | 77  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.215 M NaSCN   | 0.01 M NaPB   | 6.8 | 0.6354          | 0.3768   | 0.4423   | 0.9031    | 0.574   | -0.2832 | -0.5003 | -0.6778 | 0.5095 |        |
| 55, 56 | 78  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.543 M NaSCN   | 0.01 M NaPB   | 6.8 | 0.6595          | 0.346    | 0.4576   | 0.9392    | 0.5453  | -0.3925 | -0.5969 | -0.7852 | 0.4649 |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 1.109M NaSCN    | 0.01 M NaPB   | 6.8 | 0.6839          | 0.2702   | 0.4577   | 1.0043    |         |         |         |         | 0.42   |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 1.936M NaSCN    | 0.01 M NaPB   | 6.8 | 0.7076          | 0.1708   | 0.455    | 1.1173    |         |         |         |         | 0.3418 |        |
| 55, 56 | 79  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.027 M NaH2PO4 | 0.01 M NaPB   | 6.8 | 0.7064          | 0.276    | 0.3531   | 0.716     | 0.4624  | 0.1072  | -0.0506 | -0.1938 | 0.4086 |        |
| 55, 56 | 80  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.054 M NaH2PO4 | 0.01 M NaPB   | 6.8 | 0.7599          | 0.2962   | 0.3773   | 0.7404    | 0.4472  | 0.1399  | -0.0506 | -0.2007 | 0.4186 |        |
| 55, 56 | 81  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.108 M NaH2PO4 | 0.01 M NaPB   | 6.8 | 0.8261          | 0.3274   | 0.4052   | 0.7924    | 0.4166  | 0.1492  | -0.0655 | -0.2441 | 0.4201 |        |
| 55, 56 | 82  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.217 M NaH2PO4 | 0.01 M NaPB   | 6.8 | 0.9685          | 0.3769   | 0.48     | 0.9085    | 0.3385  | 0.1004  | -0.1302 | -0.3872 | 0.4315 |        |
| 55, 56 | 83  | 11.10% PEG-8000  | 6.33% Na2SO4     | 0.556 M NaH2PO4 | 0.01 M NaPB   | 6.8 | 1.301           | 0.5081   | 0.6611   | 1.1847    | 0.1761  | -0.0555 | -0.3915 | -0.7447 | 0.4029 |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 1.160 M NaH2PO4 | 0.01 M NaPB   | 6.8 | 1.8388          | 0.716    | 0.9445   | 1.5682    |         |         |         |         | 0.3389 |        |
| 55, 56 |     | 11.10% PEG-8000  | 6.33% Na2SO4     | 1.751 M NaH2PO4 | 0.01 M NaPB   | 6.8 |                 | 0.9395   | 1.2742   | 1.8921    |         |         |         |         | 0.3294 |        |
| 57     | 84  | 6.0% PEG-8000    | 12.0% Dex-75     |                 | 0.01 M K/NaPB | 7.4 |                 | 0.1489   | 0.0622   | 0.1732    | 0.0906  | 0.2304  | 0.248   | 0.167   | 0.2327 | 0.0864 |
| 57     | 85  | 6.0% PEG-8000    | 12.0% Dex-75     |                 | 0.01 M K/NaPB | 7.4 | 0.5 M sorbitol  | 0.1818   | 0.0711   | 0.2263    | 0.1173  | 0.3028  | 0.3086  | 0.2041  | 0.2601 | 0.1176 |
| 57     | 86  | 6.0% PEG-8000    | 12.0% Dex-75     |                 | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose   | 0.206    | 0.0645   | 0.2297    | 0.1245  | 0.316   | 0.3272  | 0.2292  | 0.2942 | 0.1041 |
| 57     | 87  | 6.0% PEG-8000    | 12.0% Dex-75     |                 | 0.01 M K/NaPB | 7.4 | 0.5 M trehalose | 0.2297   | 0.0741   | 0.2504    | 0.1361  | 0.3446  | 0.3502  | 0.2297  | 0.3233 | 0.1358 |
| 57     | 88  | 6.0% PEG-8000    | 12.0% Dex-75     |                 | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO      | 0.1626   | 0.0596   | 0.2014    | 0.0955  | 0.2574  | 0.2665  | 0.179   | 0.2458 | 0.1017 |
| 58     | 89  | 12.94% Dex-70    | 18.06% Ficoll-70 | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0645          | 0.0821   | 0.0969   | 0.1303    |         |         |         |         |        |        |
| 58     | 90  | 13.03% Dex-70    | 5.86% PEG-10000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0253          | 0.0565   | 0.0828   | 0.143     |         |         |         |         |        |        |
| 58     | 91  | 12.41% Dex-70    | 6.06% PEG-8000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.017           | 0.0531   | 0.0824   | 0.1511    |         |         |         |         |        |        |
| 58     | 92  | 13.48% Dex-70    | 6.00% PEG-6000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -5.24E-03       | 0.0278   | 0.0531   | 0.1173    |         |         |         |         |        |        |
| 58     | 93  | 20.00% Dex-70    | 8.88% PEG-6000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0334          | 0.0955   | 0.1492   | 0.2788    |         |         |         |         |        |        |
| 58     | 94  | 13.67% Dex-70    | 6.15% PEG-4000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -7.89E-03       | 0.0253   | 0.0504   | 0.1106    |         |         |         |         |        |        |
| 58     | 95  | 20.00% Dex-70    | 9.26% PEG-4000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.035           | 0.1099   | 0.1652   | 0.2889    |         |         |         |         |        |        |
| 58     | 96  | 17.26% Dex-70    | 12.13% PEG-1000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 8.60E-03        | 0.0592   | 0.0899   | 0.1303    |         |         |         |         |        |        |
| 58     | 97  | 20.00% Dex-70    | 13.57% PEG-1000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0441          | 0.1004   | 0.1443   | 0.2531    |         |         |         |         |        |        |
| 58     | 98  | 16.23% Dex-70    | 16.87% PEG-600   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0137          | 0.0438   | 0.0686   | 0.1239    |         |         |         |         |        |        |
| 58     | 99  | 12.39% Dex-70    | 10.08% Ucon-4000 | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.1335          | 0.2253   | 0.3096   | 0.4955    |         |         |         |         |        |        |
| 58     | 100 | 10.00% Dex-70    | 8.00% Ucon-4000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0917          | 0.1931   | 0.2304   | 0.415     |         |         |         |         |        |        |
| 58     | 101 | 22.99% Ficoll-70 | 9.90% PEG-10000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -0.1024         | -0.0773  | -0.0565  | -0.0101   |         |         |         |         |        |        |
| 58     | 102 | 24.67% Ficoll-70 | 10.42% PEG-8000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -0.1267         | -0.0814  | -0.0575  | -4.36E-03 |         |         |         |         |        |        |
| 58     | 103 | 23.08% Ficoll-70 | 9.87% PEG-6000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -0.1073         | -0.0742  | -0.0555  | 4.32E-03  |         |         |         |         |        |        |
| 58     | 104 | 29.23% Ficoll-70 | 15.00% PEG-6000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -0.0655         | 8.68E-04 | 0.0402   | 0.1523    |         |         |         |         |        |        |
| 58     | 105 | 13.01% Ficoll-70 | 9.93% Ucon-4000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.0719          | 0.1461   | 0.2068   | 0.3385    |         |         |         |         |        |        |
| 58     | 106 | 19.12% Ficoll-70 | 15.47% Ucon-4000 | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.2014          | 0.3222   | 0.4232   | 0.6551    |         |         |         |         |        |        |
| 58     | 107 | 15.00 PEG-8000   | 29.97% Ucon-4000 | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | 0.699           | 0.8261   | 0.9445   | 1.1673    |         |         |         |         |        |        |
| 58     | 108 | 22.56% Ficoll-70 | 13.62% PEG-4000  | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 | -0.1035         | -0.0625  | -0.0391  | 0.0233    |         |         |         |         |        |        |
| 59     | 109 | 17.30% PES       | 12.43% Dex-70    | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 |                 | -0.1427  | -0.0757  | -0.1079   | -0.1427 |         |         |         |        |        |
| 59     | 110 | 15.06% Ficoll-70 | 7.90% PEG-8000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 |                 | 0.0682   | 4.32E-03 | 0.0828    | 0       |         |         |         |        |        |
| 59     | 111 | 17.31% PES       | 14.86% Ficoll-70 | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 |                 | 0.2878   | -0.0177  | -0.0362   | -0.0223 |         |         |         |        |        |
| 59     | 112 | 15.24% PES       | 6.96% PEG-8000   | 0.15 M NaCl     | 0.01 M NaPB   | 7.4 |                 | 0.017    | -0.0315  | -0.0655   | 0.0682  |         |         |         |        |        |

**Table S2.** Partition coefficients and logarithms of partition coefficients for various proteins in aqueous two-phase systems of various compositions (NaPB – sodium phosphate buffer, K/NaPB – sodium/potassium phosphate buffer)

| Ref | # ATPS | Polymer-1        | Polymer-2        | Salt         | salt additive | Buffer        | pH  | Additive        | K<br>HSA | K<br>a-Chymotrypsin | K<br>a-Chymotrypsinogen A | K<br>Con A | K<br>Cyt c | K<br>Hemoglobin bovine | K<br>Hemoglobin human | K<br>bLGA | K<br>bLGB | K<br>Lysozyme | K<br>Rnase A | K<br>Rnase B | K<br>Subtilisin A | K<br>Trypsinogen | K<br>Ulipase |
|-----|--------|------------------|------------------|--------------|---------------|---------------|-----|-----------------|----------|---------------------|---------------------------|------------|------------|------------------------|-----------------------|-----------|-----------|---------------|--------------|--------------|-------------------|------------------|--------------|
| S4  | 1      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 |               | 0.01 M NaPB   | 6.8 |                 |          | 0.117               | 0.429                     | 0.192      |            |                        |                       |           |           | 0.406         |              |              |                   |                  | 0.618        |
| S4  | 2      | 11.10% PEG-10000 |                  | 6.33% Na2SO4 |               | 0.01 M NaPB   | 6.8 |                 |          | 0.0924              | 0.379                     | 0.195      |            |                        |                       |           |           | 0.411         |              |              |                   |                  | 0.64         |
| S4  | 3      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 |               | 0.01 M NaPB   | 6.8 | 0.5 M sorbitol  |          | 0.0576              | 0.204                     | 0.159      |            |                        |                       |           |           | 0.145         |              |              |                   |                  | 0.569        |
| S4  | 4      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 |               | 0.01 M NaPB   | 6.8 | 0.5 M sucrose   |          | 0.047               | 0.157                     | 0.144      |            |                        |                       |           |           | 0.055         |              |              |                   |                  | 0.537        |
| S4  | 5      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 |               | 0.01 M NaPB   | 6.8 | 0.5 M trehalose |          | 0.0271              | 0.119                     | 0.116      |            |                        |                       |           |           | 0.045         |              |              |                   |                  | 0.516        |
| S4  | 6      | 11.10% PEG-8000  |                  | 6.33% Na2SO4 |               | 0.01 M NaPB   | 6.8 | 0.5 M TMAO      |          | 0.112               | 0.456                     | 0.182      |            |                        |                       |           |           | 0.297         |              |              |                   |                  | 0.595        |
| S2  | 7      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 |                 |          | 0.927               | 2.75                      | 1.481      |            |                        |                       |           |           | 2.38          |              |              |                   |                  | 0.801        |
| S2  | 8      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M sorbitol  |          | 1.177               | 1.177                     | 1.17       |            |                        |                       |           |           | 3.584         |              |              |                   |                  | 0.801        |
| S2  | 9      | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose   |          | 5.184               | 1.072                     | 1.156      |            |                        |                       |           |           | 3.766         |              |              |                   |                  | 0.817        |
| S2  | 10     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO      |          | 0.967               | 3.1                       | 1.539      |            |                        |                       |           |           | 2.455         |              |              |                   |                  | 0.83         |
| S2  | 11     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO      |          | 1.56                | 4.45                      | 0.928      |            |                        |                       |           |           | 3.848         |              |              |                   |                  | 0.757        |
| S2  | 12     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 |                 |          | 1.22                | 3.646                     | 0.213      |            |                        |                       |           |           | 20.3          |              |              |                   |                  | 0.727        |
| S2  | 13     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M sorbitol  |          | 1.634               | 6.519                     | 0.246      |            |                        |                       |           |           | 46.4          |              |              |                   |                  | 0.791        |
| S2  | 14     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose   |          | 1.845               | 6.245                     | 0.267      |            |                        |                       |           |           | 49.1          |              |              |                   |                  | 0.849        |
| S2  | 15     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO      |          | 1.4                 | 4.55                      | 0.227      |            |                        |                       |           |           | 22.3          |              |              |                   |                  | 0.739        |
| S2  | 16     | 6.0% PEG-8000    | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO      |          | 1.603               | 7.451                     | 0.235      |            |                        |                       |           |           | 38.9          |              |              |                   |                  | 0.67         |
| S10 | 17     | 12.41 Dex-75     | 6.06% PEG-8000   |              |               | 0.01 M NaPB   | 7.4 |                 |          |                     | 2.71                      |            | 0.29       | 0.074                  | 0.131                 |           |           | 2.36          | 0.489        | 0.455        |                   | 0.89             | 0.716        |
| S10 | 18     | 10.75 Dex-75     | 5.22% PEG-8000   |              |               | 0.01 M NaPB   | 7.4 |                 |          |                     |                           |            |            |                        |                       |           |           | 1.68          | 0.559        |              |                   |                  | 0.733        |
| S10 | 19     | 8.99 Dex-75      | 4.34% PEG-8000   |              |               | 0.01 M NaPB   | 7.4 |                 |          |                     |                           |            |            |                        |                       |           |           | 1.46          | 0.686        |              |                   |                  | 0.773        |
| S10 | 20     | 12.39 Dex-75     | 10.08% Ucon-4000 |              |               | 0.01 M NaPB   | 7.4 |                 |          | 1.78                |                           |            | 0.12       |                        |                       |           |           | 2.95          | 0.247        | 0.265        |                   | 0.702            | 0.658        |
| S10 | 21     | 10.42 Dex-75     | 8.41% Ucon-4000  |              |               | 0.01 M NaPB   | 7.4 |                 |          |                     |                           |            |            | 0.053                  | 0.117                 |           |           | 2.69          | 0.355        |              |                   |                  | 0.649        |
| S10 | 22     | 8.23 Dex-75      | 6.82% Ucon-4000  |              |               | 0.01 M NaPB   | 7.4 |                 |          |                     |                           |            |            |                        |                       |           |           | 2.2           | 0.537        |              |                   |                  | 0.761        |
| S11 | 23     | 13.95% PEG-8000  |                  | 8.06% Na2SO4 |               | 0.01 M UB     | 7.4 |                 |          | 0.097               | 0.243                     | 0.072      |            |                        |                       |           |           | 0.236         | 0.027        | 0.099        | 1.124             | 0.038            |              |
| S11 | 24     | 13.95% PEG-8000  |                  | 8.06% Na2SO4 | 0.15 M NaCl   | 0.01 M UB     | 7.4 |                 |          | 0.101               | 0.324                     | 0.066      |            |                        |                       |           |           | 0.113         | 0.011        | 0.043        | 0.57              | 0.023            | 0.083        |
| S11 | 25     | 13.95% PEG-8000  |                  | 8.06% Na2SO4 | 0.33 M NaCl   | 0.01 M UB     | 7.4 |                 |          | 0.121               | 0.778                     | 0.069      |            |                        |                       |           |           | 0.109         | 0.015        | 0.048        | 3.969             | 0.031            | 0.05         |
| S11 | 26     | 13.95% PEG-8000  |                  | 8.06% Na2SO4 | 0.15M NaSCN   | 0.01 M UB     | 7.4 |                 |          | 0.093               | 0.138                     | 0.071      |            | 0.041                  |                       |           |           | 0.115         | 0.011        | 0.051        | 13.99             | 0.04             | 0.099        |
| S11 | 27     | 13.95% PEG-8000  |                  | 8.06% Na2SO4 | 0.40M NaSCN   | 0.01 M UB     | 7.4 |                 |          | 0.157               | 0.801                     | 0.088      |            | 0.05                   |                       |           |           | 0.174         | 0.013        | 0.068        | 55.4              | 0.071            | 0.106        |
| S11 | 28     | 15.00% PEG-8000  |                  |              |               | 1.4M K/NaPB   | 7.4 |                 | 0.353    | 0.306               |                           | 0.14       |            | 0.246                  |                       |           |           | 0.489         | 0.131        | 0.141        | 0.104             | 0.069            | 2.088        |
| S11 | 29     | 15.70% PEG-600   |                  | 9.47% Na2SO4 | 0.15 M NaCl   | 0.058M K/NaPB | 7.4 |                 | 0.38     | 3.055               | 5.73                      | 0.337      | 0.152      | 2.253                  |                       |           |           | 5.043         | 0.167        | 0.248        | 6.633             | 1.797            | 0.847        |
| S11 | 30     | 15.70% PEG-600   |                  | 9.47% Na2SO4 |               | 0.085M K/NaPB | 7.4 |                 | 1.111    | 2.849               | 5.18                      | 0.393      | 0.093      | 2.52                   |                       |           |           | 6.67          | 0.322        | 0.399        | 5.512             | 1.842            | 0.953        |
| S11 | 31     | 15.70% PEG-600   |                  | 9.47% Na2SO4 | 0.15 M NaCl   | 0.085M K/NaPB | 7.4 |                 | 0.424    | 4.228               | 11.54                     | 0.275      | 0.049      | 4.228                  |                       |           |           | 8.995         | 0.161        | 0.236        | 10.04             | 2.359            | 0.88         |
| S11 | 32     | 15.70% PEG-600   |                  | 9.47% Na2SO4 | 0.40M NaSCN   | 0.085M K/NaPB | 7.4 |                 |          | 8.515               | 33.73                     | 0.267      | 0.02       | 5.717                  |                       |           |           | 11.85         | 0.061        | 0.147        | 81.3              | 5.018            | 1.065        |
| S11 | 33     | 15.70% PEG-600   |                  | 9.47% Na2SO4 |               | 0.17M K/NaPB  | 7.4 |                 | 1.982    | 5.106               | 17.61                     | 0.419      | 0.026      | 5.152                  |                       |           |           | 8.59          | 0.259        | 0.342        | 12.04             | 2.702            | 1.051        |
| S11 | 34     | 15.70% PEG-600   |                  | 9.47% Na2SO4 | 0.15M NaCl    | 0.17M K/NaPB  | 7.4 |                 | 0.639    | 7.381               | 44.23                     | 0.454      | 0.0083     | 5.889                  |                       |           |           | 0.144         | 0.275        | 23.22        | 3.44              | 1.108            | 2.293        |
| S11 | 35     | 15.70% PEG-600   |                  | 9.47% Na2SO4 | 0.30 M NaCl   | 0.17M K/NaPB  | 7.4 |                 | 0.364    | 11.55               | 76.63                     | 0.591      | 0.029      | 5.77                   |                       |           |           | 0.124         | 0.199        | 85.6         | 6.299             | 1.274            | 2.419        |
| S11 | 36     | 15.70% PEG-600   |                  | 9.47% Na2SO4 | 0.40 M NaSCN  | 0.17M K/NaPB  | 7.4 |                 |          | 14.41               | 28.43                     | 0.07       | 0.051      |                        |                       |           |           | 0.061         | 0.149        | 93.7         | 7.351             | 1.324            |              |
| S11 | 37     | 15.30% PEG-600   |                  | 9.46% Na2SO4 | 0.15 M NaCl   | 0.15M K/NaPB  | 7.4 |                 | 2.595    | 6.451               | 31.58                     | 0.328      | 0.037      | 4.267                  |                       | 12.03     |           | 0.254         | 0.32         | 6.737        | 2.931             | 0.947            |              |
| S11 | 38     | 13.75% PEG-600   |                  |              |               | 1.55M K/NaPB  | 7.4 |                 |          | 28.1                |                           |            | 0.035      | 14.71                  |                       |           |           | 46.5          | 5.12         | 65.3         | 29.89             | 2.073            | 1.597        |
| S12 | 39     | 9.00% PEG-8000   | 19.0% Ficoll-70  |              |               | 0.01 M K/NaPB | 7.4 |                 |          | 0.18                | 0.519                     | 0.263      |            |                        |                       |           |           | 0.125         | 0.109        | 0.186        | 0.238             | 0.195            |              |
| S12 | 40     | 9.00% PEG-8000   | 19.0% Ficoll-70  |              |               | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO      |          | 0.201               | 0.687                     | 0.258      |            |                        |                       |           |           | 0.166         | 0.121        | 0.171        | 0.244             | 0.191            |              |
| S12 | 41     | 9.00% PEG-8000   | 19.0% Ficoll-70  |              |               | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO      |          | 0.263               | 1.367                     | 0.263      |            |                        |                       |           |           | 0.214         | 0.17         | 0.179        | 0.235             | 0.159            |              |
| S12 | 42     | 9.00% PEG-8000   | 19.0% Ficoll-70  |              |               | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO      |          | 0.333               | 3.06                      | 0.267      |            |                        |                       |           |           | 0.42          | 0.312        | 0.062        | 0.241             | 0.142            |              |
| S12 | 43     | 11.90% Dex-70    | 15.7% PEG-600    |              | 0.15 M Na2SO4 | 0.01 M K/NaPB | 7.4 |                 | 0.518    | 1.475               | 2.491                     | 0.235      |            |                        |                       |           |           | 0.365         | 0.332        | 0.765        | 0.885             | 1.078            |              |
| S12 | 44     | 11.90% Dex-70    | 15.7% PEG-600    |              | 0.15 M Na2SO4 | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO      |          | 0.629               | 3.296                     | 0.229      |            |                        |                       |           |           | 0.368         | 0.367        | 0.79         | 0.959             | 1.187            |              |
| S12 | 45     | 11.90% Dex-70    | 15.7% PEG-600    |              | 0.15 M Na2SO4 | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO      |          | 0.887               | 2.306                     | 0.24       |            |                        |                       |           |           | 0.461         | 0.505        | 0.9          | 1.061             | 1.29             |              |
| S12 | 46     | 11.90% Dex-70    | 15.7% PEG-600    |              | 0.15 M Na2SO4 | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO      |          | 1.717               | 3.185                     | 0.241      |            |                        |                       |           |           | 0.791         | 0.75         | 1.03         | 1.283             | 1.531            |              |
| S12 | 47     | 11.90% Dex-70    | 15.7% PEG-600    |              | 0.15 M Na2SO4 | 0.01 M K/NaPB | 7.4 | 1.95 M TMAO     | 3.909    | 3.978               | 7.575                     | 0.252      |            |                        |                       |           |           | 1.282         | 1.298        | 1.16         | 1.506             | 1.736            |              |
| S13 | 48     | 12.4% Dex-70     | 6.1% PEG-8000    |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 2.71                |                           |            | 0.29       | 0.074                  | 0.131                 |           |           | 2.36          | 0.489        | 0.455        |                   | 0.89             | 0.716        |
| S13 | 49     | 12.4% Dex-70     | 10.1% Ucon-4000  |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 1.78                |                           |            | 0.12       | 0.053                  | 0.117                 |           |           | 2.95          | 0.247        | 0.265        |                   | 0.702            | 0.658        |
| S13 | 50     | 15.0% PEG-8000   | 30.0% Ucon-4000  |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 0.0098              |                           |            |            |                        |                       |           |           | 0.036         | 0.014        | 0.44         |                   | 0.015            | 0.358        |
| S13 | 51     | 15.10% Ficoll-70 | 7.90% PEG-8000   |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 1.04                |                           |            |            |                        |                       |           |           | 0.094         | 0.91         | 0.466        | 0.44              | 0.58             | 0.733        |
| S13 | 52     | 13.00% Ficoll-70 | 9.93% Ucon-4000  |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 0.638               |                           |            |            |                        |                       |           |           | 0.074         | 0.25         | 0.237        |                   | 0.345            | 0.634        |
| S13 | 53     | 15.2% PEG-100    | 6.96% PEG-8000   |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 2.98                |                           |            |            | 0.148                  |                       |           |           | 0.22          | 0.594        | 0.703        |                   | 0.967            | 0.75         |
| S13 | 54     | 12.9% PEG-100    | 7.68% Ucon-4000  |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 1.8                 |                           |            |            | 0.208                  |                       |           |           | 0.282         | 1.28         | 0.506        | 0.63              |                  | 0.779        |
| S1  | 55     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 |                 |          | 0.11                | 0.543                     | 0.183      |            |                        |                       |           |           |               | 0.983        |              |                   |                  | 0.584        |
| S1  | 56     | 11.10% PEG-10000 |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 |                 |          | 0.0814              | 0.472                     | 0.173      |            |                        |                       |           |           |               | 0.929        |              |                   |                  | 0.585        |
| S1  | 57     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 | 0.5 M sorbitol  |          | 0.0412              | 0.335                     | 0.146      |            |                        |                       |           |           |               | 0.531        |              |                   |                  | 0.534        |
| S1  | 58     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 | 0.5 M sucrose   |          | 0.043               | 0.365                     | 0.13       |            |                        |                       |           |           |               | 0.335        |              |                   |                  | 0.522        |
| S1  | 59     | 11.10% PEG-8000  |                  | 6.33% Na2SO4 | 0.215M NaCl   | 0.01 M NaPB   | 6.8 | 0.5 M TMAO      |          | 0.0816              | 0.601                     | 0.167      |            |                        |                       |           |           |               | 0.786        |              |                   |                  | 0.538        |
| S14 | 60     | 12.33% Dex-69    | 6.05% PEG-8000   |              |               | 0.01 M NaPB   | 7.4 |                 | 0.076    | 0.58                | 1.164                     | 0.125      | 0.067      | 0.158                  |                       |           |           | 0.375         | 0.386        | 0.225        | 0.225             | 0.555            | 1.137        |
| S14 | 61     | 12.33% Dex-69    | 6.05% PEG-8000   |              | 0.15 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 0.859               | 2.42                      | 0.133      | 0.212      | 0.136                  |                       |           |           | 0.207         | 0.072        | 0.138        | 1.939             | 0.583            | 1.469        |
| S14 | 62     | 12.33% Dex-69    | 6.05% PEG-8000   |              | 1.05 M NaCl   | 0.01 M NaPB   | 7.4 |                 |          | 1.346               | 6.71                      | 0.151      | 0.23       | 0.267                  |                       |           |           | 0.355         | 0.054        | 0.256        | 10.4              | 0.757            | 0.644        |

|     |    |                 |                  |              |               |               |     |                |         |         |         |         |         |         |         |         |         |         |         |        |        |
|-----|----|-----------------|------------------|--------------|---------------|---------------|-----|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|
| S2  | 8  | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M sorbitol | 0.6178  | 0.0708  | 0.0682  | 0.5544  |         |         | -0.0964 |         |         |         |         |        |        |
| S2  | 9  | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose  | 0.7147  | 0.0302  | 0.0682  | 0.5759  |         |         | -0.0878 |         |         |         |         |        |        |
| S2  | 10 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO     | -0.0146 | 0.4914  | 0.1872  | 0.3901  |         |         | -0.0809 |         |         |         |         |        |        |
| S2  | 11 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaCl   | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO     | 0.1931  | 0.6484  | -0.0325 | 0.5852  |         |         | -0.1209 |         |         |         |         |        |        |
| S2  | 12 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 |                | 0.0864  | 0.5618  | -0.6716 | 1.3075  |         |         | -0.1385 |         |         |         |         |        |        |
| S2  | 13 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M sorbitol | 0.2133  | 0.8142  | -0.6091 | 1.6665  |         |         | -0.1018 |         |         |         |         |        |        |
| S2  | 14 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M sucrose  | 0.266   | 0.7955  | -0.5735 | 1.6911  |         |         | -0.0711 |         |         |         |         |        |        |
| S2  | 15 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 0.5 M TMAO     | 0.1461  | 0.658   | -0.644  | 1.3483  |         |         | -0.1314 |         |         |         |         |        |        |
| S2  | 16 | 6.0% PEG-8000   | 12.0 Dex-75      |              | 0.215M NaClO4 | 0.01 M K/NaPB | 7.4 | 1.5 M TMAO     | 0.2049  | 0.8722  | -0.6289 | 1.5899  |         |         | -0.1739 |         |         |         |         |        |        |
| S10 | 17 | 12.41 Dex-75    | 6.06% PEG-8000   |              |               | 0.01 M NaPB   | 7.4 |                | 0.433   |         | -0.5376 | -1.1308 | -0.8827 | -0.3107 | -0.342  | -0.0506 | -0.1451 |         |         |        |        |
| S10 | 18 | 10.75 Dex-75    | 5.22% PEG-8000   |              |               | 0.01 M NaPB   |     |                |         |         |         | 0.2253  | -0.2526 |         |         | -0.1349 |         |         |         |        |        |
| S10 | 19 | 8.99 Dex-75     | 4.34% PEG-8000   |              |               | 0.01 M NaPB   |     |                |         |         |         | 0.1644  | -0.1637 |         |         | -0.1118 |         |         |         |        |        |
| S10 | 20 | 12.39 Dex-75    | 10.08% Ucon-4000 |              |               | 0.01 M NaPB   | 7.4 |                | 0.2504  |         | -0.9208 |         |         | 0.4698  | -0.6073 | -0.5768 | -0.1537 | -0.1818 |         |        |        |
| S10 | 21 | 10.42 Dex-75    | 8.41% Ucon-4000  |              |               | 0.01 M NaPB   | 7.4 |                |         |         |         | 0.4298  | -0.4498 |         |         |         | -0.1878 |         |         |        |        |
| S10 | 22 | 8.23 Dex-75     | 6.82% Ucon-4000  |              |               | 0.01 M NaPB   | 7.4 |                |         |         |         | 0.3424  | -0.27   |         |         |         | -0.1186 |         |         |        |        |
| S11 | 23 | 13.95% PEG-8000 |                  | 8.06% Na2SO4 |               | 0.01 M UB     | 7.4 |                | -1.0132 | -0.6144 | -1.1427 | -2.0969 | -1.2147 | -0.6271 | -1.5686 | -1.0044 | 0.0508  | -1.4202 |         |        |        |
| S11 | 24 | 13.95% PEG-8000 |                  | 8.06% Na2SO4 | 0.15 M NaCl   | 0.01 M UB     | 7.4 |                | -0.9957 | -0.4895 | -1.1805 | -1.9586 | -1.3665 | -0.2441 | -1.6383 | -1.0809 | 0.1767  | -1.4437 |         |        |        |
| S11 | 25 | 13.95% PEG-8000 |                  | 8.06% Na2SO4 | 0.33 M NaCl   | 0.01 M UB     | 7.4 |                | -0.9172 | -0.109  | -1.1612 | -1.8239 | -1.3188 | 0.5987  | -1.5086 | -1.301  | 0.27    | -1.1487 |         |        |        |
| S11 | 26 | 13.95% PEG-8000 |                  | 8.06% Na2SO4 | 0.15M NaSCN   | 0.01 M UB     | 7.4 |                | -1.0315 | -0.8601 | -1.1487 | -1.9586 | -1.2924 | 1.1458  | -1.3979 | -1.0044 | 0.2725  | -1.6198 |         |        |        |
| S11 | 27 | 13.95% PEG-8000 |                  | 8.06% Na2SO4 | 0.40M NaSCN   | 0.01 M UB     | 7.4 |                | -0.8041 | -0.0964 | -1.0555 | -1.8861 | -1.1675 | 1.7435  | -1.1487 | -0.9747 | 0.3458  | -1.1367 |         |        |        |
| S11 | 28 | 15.00% PEG-8000 |                  |              |               | 1.4M K/NaPB   | 7.4 | -0.4522        | -0.5143 |         | -0.8539 | -0.8827 | -0.8508 |         | -0.983  | -1.1612 | 0.3197  | -0.9172 |         |        |        |
| S11 | 29 | 15.70% PEG-600  |                  | 9.47% Na2SO4 | 0.15 M NaCl   | 0.058M K/NaPB | 7.4 | -0.4202        | 0.485   | 0.7582  | -0.4724 | -0.8182 | 0.3528  | 0.7027  | -0.7773 | -0.6055 | 0.8217  | 0.2545  | -0.0721 | 0.2956 | 0.6086 |
| S11 | 30 | 15.70% PEG-600  |                  | 9.47% Na2SO4 |               | 0.085M K/NaPB | 7.4 | 0.0457         | 0.4547  | 0.7143  | -0.4056 | -1.0315 | 0.4014  | 0.8241  | -0.4921 | -0.399  | 0.7413  | 0.2653  | -0.0209 | 0.2975 | 0.5015 |
| S11 | 31 | 15.70% PEG-600  |                  | 9.47% Na2SO4 | 0.15 M NaCl   | 0.085M K/NaPB | 7.4 | -0.3726        | 0.6261  | 1.0622  | -0.5607 | -1.3098 | 0.507   |         |         |         |         |         |         |        |        |

**Table S3.** Logarithms of distribution coefficients for various drugs in octanol-buffer systems of various ionic compositions (NaPB – sodium phosphate buffer, UB - Universal buffer composed of 0.01M or 0.10M each of phosphoric, boric, and acetic acids adjusted to pH 7.4 with NaOH)

| Component-1 | Component-2 | logD 5-Hydroxytryptophan | logD Acebutolol HCl | logD a-Methyldopa | logD Amoxicillin | logD Atenolol | logD Carbamazepine | logD Chlorpromazine HCl |
|-------------|-------------|--------------------------|---------------------|-------------------|------------------|---------------|--------------------|-------------------------|
|             | 0.01M NaPB  | -1.395                   | -0.09               | -2.14             | -3.18            | -0.21         | 1.48               | 2.03                    |
|             | 0.01M UB    | -2                       | 0                   | -2.35             | -3.4             | -0.18         | 1.34               | 2.2                     |
|             | 0.10M NaPB  | -1.95                    | 0.04                | -2.06             | -3.05            | -1.43         | 1.47               | 3.25                    |
|             | 0.10M UB    | -2.09                    | 0.46                | -3.19             | 3.18             | -0.81         | 1.39               | 3.38                    |
| 0.15M NaCl  | 0.01M NaPB  | -2.03                    | -0.19               | -2.24             | -3.37            | -0.08         | 1.44               | 2.35                    |
| 0.15M NaCl  | 0.01M UB    | -2.05                    | -0.1                | -2.28             | -3.38            | -0.25         | 1.37               | 2.17                    |
| 0.15M NaCl  | 0.10M NaPB  | -1.98                    | 0.08                | -2.13             | -3.11            | -1.38         | 1.49               | 3.18                    |
| 0.15M NaCl  | 0.10M UB    | -2.07                    | 0.4                 | -3.09             | -3.21            | -0.85         | 1.41               | 3.49                    |

| Component-1 | Component-2 | logD Clonidine HCl | logD Desipramine HCl | logD Diclofenac Na | logD Doxepin HCl | logD Furosemide | logD Harmine | logD Hydrochlorocyclizine 2HCl |
|-------------|-------------|--------------------|----------------------|--------------------|------------------|-----------------|--------------|--------------------------------|
|             | 0.01M NaPB  | 0.84               | 0.81                 | 0.05               | 1.41             | -1.77           | 2.51         | 0.43                           |
|             | 0.01M UB    | 0.91               | 0.85                 | -0.04              | 1.48             | -1.86           | 2.47         | 0.92                           |
|             | 0.10M NaPB  | 1.2                | 1.32                 | 0.69               | 2.46             | -1.58           | 2.51         | 2.7                            |
|             | 0.10M UB    | 1.34               | 1.7                  | 0.6                | 2.62             | -1.59           | 2.48         | 2.88                           |
| 0.15M NaCl  | 0.01M NaPB  | 0.64               | 1.03                 | 0.62               | 1.47             | -1.46           | 2.51         | 1.43                           |
| 0.15M NaCl  | 0.01M UB    | 0.66               | 1.01                 | 0.55               | 1.35             | -1.51           | 2.45         | 1.36                           |
| 0.15M NaCl  | 0.10M NaPB  | 1.13               | 1.4                  | 0.85               | 2.4              | -1.47           | 2.53         | 2.67                           |
| 0.15M NaCl  | 0.10M UB    | 1.29               | 1.6                  | 0.78               | 2.62             | -1.49           | 2.49         | 2.8                            |

| Component-1 | Component-2 | logD Hydrochlorothiazide | logD Imipramine | logD Indomethacin | logD Maprotiline HCl | logD Mefexamide HCl | logD Metoprolol (1/2 tartrate) | logD Minaprine 2HCl |
|-------------|-------------|--------------------------|-----------------|-------------------|----------------------|---------------------|--------------------------------|---------------------|
|             | 0.01M NaPB  | -0.37                    | 1.5             | 0.71              | 0.83                 | 0.37                | -0.33                          | -0.46               |
|             | 0.01M UB    | -0.48                    | 1.6             | 0.63              | 0.88                 | 0.43                | -0.19                          | 0.37                |
|             | 0.10M NaPB  | -0.35                    | 2.62            | 0.63              | 1.28                 | 0.85                | 0.03                           | 2.04                |
|             | 0.10M UB    | -0.5                     | 2.84            | 0.55              | 1.63                 | 1.21                | 0.47                           | 2.03                |
| 0.15M NaCl  | 0.01M NaPB  | -0.42                    | 1.69            | 1.02              | 1.22                 | 0.25                | -0.3                           | 0.05                |
| 0.15M NaCl  | 0.01M UB    | -0.5                     | 1.58            | 0.94              | 1.13                 | 0.29                | -0.2                           | 0.38                |
| 0.15M NaCl  | 0.10M NaPB  | -0.37                    | 2.58            | 0.81              | 1.42                 | 0.78                | 0.11                           | 1.99                |
| 0.15M NaCl  | 0.10M UB    | -0.53                    | 2.85            | 0.74              | 1.65                 | 1.06                | 0.39                           | 2.01                |

| Component-1 | Component-2 | logD Piroxicam | logD Propranolol | logD Sulfamethizole | logD Terbutaline | logD Theophylline | logD Thioridazine | logD Verapamil |
|-------------|-------------|----------------|------------------|---------------------|------------------|-------------------|-------------------|----------------|
|             | 0.01M NaPB  | -0.31          | 0.71             | -1.07               | -1.23            | 0.08              | 2.07              | 1.65           |
|             | 0.01M UB    | -0.39          | 0.77             | -1.18               | -1.09            | 0.11              | 2.4               | 1.79           |
|             | 0.10M NaPB  | -0.83          | 1.39             | -2.18               | -1.33            | 0.13              | 3.45              | 2.79           |
|             | 0.10M UB    | -0.9           | 1.67             | -2.48               | -0.87            | 0                 | 3.6               | 3.03           |
| 0.15M NaCl  | 0.01M NaPB  | -0.24          | 0.84             | -1.15               | -1.29            | 0.13              | 2.56              | 1.79           |
| 0.15M NaCl  | 0.01M UB    | -0.21          | 0.83             | -1.16               | -1.2             | 0.11              | 2.49              | 1.67           |
| 0.15M NaCl  | 0.10M NaPB  | -0.73          | 1.35             | -2.17               | -1.24            | 0.15              | 3.4               | 2.76           |
| 0.15M NaCl  | 0.10M UB    | -0.79          | 1.56             | -2.33               | -0.92            | 0.02              | 4.33              | 3.04           |

**Table S4.** Logarithms of partition coefficients of drugs between blood and various tissues in rats in vivo (data from [S16])

| Tissues/Drug | 5-butyl-5-ethyl<br>barbituric acid | 5-heptyl-5-ethyl<br>barbituric acid | 5-hexyl-5-ethyl<br>barbituric acid | 5-methyl-5-ethyl<br>barbituric acid | 5-nonyl-5-ethyl<br>barbituric acid | 5-octyl-5-ethyl<br>barbituric acid | 5-pentyl-5-ethyl<br>barbituric acid | 5-propyl-5-ethyl<br>barbituric acid |
|--------------|------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| Muscle       | -0.0706                            | 0.1818                              | 0.2553                             | -0.1427                             | 0.0899                             | 0.0453                             | 0.0414                              | 0.0969                              |
| Bone         |                                    |                                     |                                    |                                     |                                    |                                    |                                     |                                     |
| Brain        | -0.0655                            | 0.0864                              | 0.2455                             | -0.2007                             | 0.42                               | 0.3444                             | -0.1612                             | -0.0223                             |
| Heart        | 0.0128                             | 0.1492                              | 0.2279                             | -0.1612                             | 0.0828                             | 0.1761                             | 0.0294                              | 4.32E-03                            |
| Intestine    | -8.77E-03                          | 0.1038                              | 0.2068                             | -0.2366                             | 0.3222                             | 0.1673                             | -0.0506                             | -0.0757                             |
| Skin         | -0.1079                            | 0.2068                              | 0.3444                             | -0.0862                             | 0.5775                             | 0.5145                             | -0.1427                             | 0.0334                              |
| Lungs        | -0.1024                            | 0.0453                              | 0.0334                             | -0.1308                             | 0.5539                             | 0.5276                             | -0.1192                             | 0.0531                              |
| Spleen       | -0.2366                            | 0.0453                              | 0                                  | -0.1938                             | 0.4983                             | 0.3032                             | -0.2441                             | -0.0809                             |
| Adipose      | -0.0132                            | 0.7959                              | 0.8859                             | -0.6021                             | 0.8627                             | 0.7882                             | 0.2304                              | -0.0605                             |
| Liver        | 0.1931                             | 0.4249                              | 0.525                              | 0.1959                              | 0.6758                             | 0.7284                             | 0.2095                              | 0.29                                |
| Kidney       | 0.3784                             | 0.3263                              | 0.356                              | 0.1038                              | 0.3139                             | 0.444                              | 0.2279                              | 0.4713                              |
| Stomach      | -0.0362                            | 0.4857                              | 0.4786                             | -0.585                              | 0.5478                             | 0.2788                             | 0.017                               | -0.2076                             |
| Pancreas     | -0.3188                            | 0.2068                              | 0.2068                             | -0.3098                             | 0.4609                             | 0.4116                             | -0.1192                             | -0.1612                             |

  

| Tissues/Drug | Acebutolol | Alfentanil | Alprazolam | Barbital | Betaxolol | Biperiden | Bisoprolol | Carvedilol |
|--------------|------------|------------|------------|----------|-----------|-----------|------------|------------|
| Muscle       | 0.6513     | -0.2924    | 0.3385     | -0.0862  | 0.8376    | 0.5224    | 0.5933     | 0.1206     |
| Bone         |            | -1.3979    |            |          |           | 0.8169    | 0.2923     | 0.5328     |
| Brain        | -0.4089    | -0.6383    | 0.1987     | -0.1739  | 0.8156    | 0.8382    | 0.0969     |            |
| Heart        | 0.6758     | -0.041     |            | -0.1367  | 1.0531    | 0.8463    | 0.683      | 0.7853     |
| Intestine    | 1.933      | 0.601      | 0.1399     | -0.2291  | 1.2923    | 1.017     | 1.281      |            |
| Skin         | 0.415      | -0.4685    | 0.281      | -0.0809  | 0.4997    | 0.5809    | 0.2068     |            |
| Lungs        | 0.8899     | 0.1106     |            | -0.0706  | 1.9877    | 1.7528    | 1.4886     |            |
| Spleen       |            | 0.1335     |            | -0.1938  |           |           |            | 0.8222     |
| Adipose      | -0.0757    | 0.5988     | 4.32E-03   | -0.3468  | 0.1644    | 1.7796    | -0.1249    |            |
| Liver        | 1.4265     | 0.2742     | 0.8463     | 0.3385   | 1.7796    |           | 1.2253     | 0.932      |
| Kidney       | 1.4314     | 0.1903     | 0.4249     | 0.2279   | 1.4533    | 1.0086    | 1.2601     | 0.716      |
| Stomach      |            |            |            | -0.5528  |           |           |            |            |
| Pancreas     |            | 0.2553     |            | -0.3279  |           |           |            |            |

  

| Tissues/Drug | Cefazolin | Ceftazidime | Chlordiazepoxide | Cisapride | Cotinine  | Decane | Deltamethrin | Diazepam |
|--------------|-----------|-------------|------------------|-----------|-----------|--------|--------------|----------|
| Muscle       | -0.6576   | -0.7212     | -0.2596          |           | -0.1612   | 0.7202 | 1.5159       | 0.3541   |
| Bone         |           | -0.6383     |                  |           |           |        |              |          |
| Brain        |           |             | -0.2757          | 0.1461    | -0.3468   | 1.0334 | 0.1106       | 0.3096   |
| Heart        | -0.7212   | -0.6576     | 0.2718           | 0.238     | -0.2924   |        |              | 0.6937   |
| Intestine    | -0.4089   | -0.3872     | 0.1492           |           | -0.2218   |        | 0.4116       | 0.5911   |
| Skin         | -0.2007   | -0.4089     | -0.4685          |           |           |        |              | 0.7332   |
| Lungs        | -0.3768   | -0.3565     |                  | 0.9877    | -0.2366   |        |              | 0.6599   |
| Spleen       |           |             |                  |           |           |        |              |          |
| Adipose      |           | -0.7959     | 0.49             |           | -1.0969   | 1.4216 | 2.4579       | 1.415    |
| Liver        | 0.2788    | -0.6021     | 0.5416           | 1.1875    | -0.1938   | 1.0334 | 0.4116       | 0.7966   |
| Kidney       | 0.8267    | 0.6884      | 0.2878           | 0.8189    | -4.36E-03 |        |              | 0.6618   |
| Stomach      |           |             |                  |           |           |        |              |          |
| Pancreas     |           |             |                  |           |           |        |              |          |

  

| Tissues/Drug | Dicloxacillin | Dideoxyinosine | Digoxin | Domperidone | Enoxacin | Etodolac | Fentanyl | Fingolimod |
|--------------|---------------|----------------|---------|-------------|----------|----------|----------|------------|
| Muscle       | -1.301        | -0.1612        | 0.0828  | 0.4298      | 0.1875   |          | 0.5635   | 1.0212     |
| Bone         |               |                |         |             |          | 0.1847   |          |            |
| Brain        |               | -0.7696        |         | -1.0458     |          | -1.0458  | 0.6212   | 1.692      |
| Heart        | -1.1549       |                | 0.2068  | 0.48        | 0.0531   | -0.1938  | 0.7275   | 1.2405     |
| Intestine    |               | -0.2924        | 0.7543  |             |          |          | 1.0128   |            |
| Skin         |               |                |         |             | 0.1584   |          | 0.4116   |            |
| Lungs        | -0.9208       |                | 0.3032  | 0.9009      | 0.0828   |          | 1.2041   | 1.8338     |
| Spleen       | -1.0458       | -0.1739        |         |             | 0.238    |          | 1.534    | 1.7931     |
| Adipose      |               |                |         |             |          | -0.6198  | 1.5198   |            |
| Liver        |               | -0.1192        | 1.1644  | 1.0294      | 0.5328   | -0.301   | 0.6532   | 1.6721     |
| Kidney       |               | 0.8357         | 0.2967  | 1.243       | 0.6902   | -0.3188  | 1.1553   | 1.5539     |
| Stomach      |               |                |         |             |          |          |          |            |
| Pancreas     |               | -0.1487        |         |             |          |          | 1.4216   |            |

  

| Tissues/Drug | Floxacin | Flunitrazepam | Ftorafur | Galanthamine | Glycyrrhetic acid | Glycyrrhizin | Hexobarbital | Imipramine |
|--------------|----------|---------------|----------|--------------|-------------------|--------------|--------------|------------|
| Muscle       | 0.1903   | -0.1192       | -0.0458  | 0.3118       | -0.7447           | -1           | -0.1024      | 0.7218     |
| Bone         |          | -0.0315       |          |              |                   |              |              |            |
| Brain        |          | 0.1367        | -0.1367  | 0.1614       | -1.1549           |              |              | 1.1038     |
| Heart        | 0.2945   | -0.0223       | -0.1612  |              | -0.6778           | -1.3979      | 0.1139       | 1.1173     |
| Intestine    |          | 0.601         | -0.1871  |              |                   |              | 0.1523       | 1.1461     |
| Skin         |          |               | -0.1427  |              | -0.5376           | -0.5528      | -0.0362      |            |
| Lungs        | 0.2201   |               | -0.3372  |              | -0.3979           | -1           | 0.4487       | 1.8825     |
| Spleen       |          |               | -0.1192  |              | -0.8861           |              |              | 1.5353     |
| Adipose      |          | 1.7723        | -0.5086  |              |                   |              | 0.2148       | 0.7987     |
| Liver        |          | 0.48          | -0.1549  | 0.3856       |                   |              | 0.7752       | 1.4914     |
| Kidney       |          | -0.4815       | 0.0899   | 1.1239       |                   |              | 0.179        | 1.4362     |
| Stomach      |          |               |          |              |                   |              |              |            |
| Pancreas     |          |               | -0.4437  |              |                   |              |              | 1.4166     |

  

| Tissues/Drug | Inaperisone | Laniquidar | Lidocaine | Lomefloxacin | Lorcainide | Lubeluzole | Matrine | Metoprolol |
|--------------|-------------|------------|-----------|--------------|------------|------------|---------|------------|
| Muscle       | 0.3385      | 0.9513     | 0.1206    | 0.2253       | 0.3711     | 0.4281     | 0.1271  | 0.5682     |
| Bone         |             |            |           | 0.2148       |            |            |         | 0.5391     |
| Brain        | 0.8156      | 0.5587     | 0.4065    | -0.6576      | 0.1004     | 0.7348     | 0.3139  | 0.6464     |
| Heart        | 0.5944      | 0.8669     | 0.3304    | 0.1523       | 0.382      |            | 0.1875  | 0.6365     |
| Intestine    |             |            | 0.3892    | 0.2279       |            |            | 0.49    | 0.902      |
| Skin         | 0.525       |            | 0.3075    | -0.0132      |            |            |         | 0.3032     |
| Lungs        | 1.248       | 1.6893     | 0.4757    | 0.1106       | 1.2068     | 1.3766     | 0.1875  | 1.2355     |

|          |        |        |        |         |         |        |         |         |
|----------|--------|--------|--------|---------|---------|--------|---------|---------|
| Spleen   |        |        | 0.5763 | 0.2553  |         |        | 0.8122  |         |
| Adipose  | 0.9159 |        |        | -0.5686 |         |        | -0.3372 | -0.1805 |
| Liver    | 1.2553 | 1.3263 | 0.9571 | 0.3784  | -0.3279 | 1.5611 | 0.7536  | 1.4456  |
| Kidney   | 1.4886 | 1.179  | 2.1303 | 0.7024  | 0.6739  | 1.1139 | 1.0128  | 1.2455  |
| Stomach  |        |        |        |         |         |        |         |         |
| Pancreas |        |        |        |         |         |        |         |         |

| Tissues/Drug | Midazolam | Miloxacin | Molinate | Nalidixic acid | Nebivolol | Nicotine | o-Ethoxybenzamide | Ofloxacin |
|--------------|-----------|-----------|----------|----------------|-----------|----------|-------------------|-----------|
| Muscle       | 0.1139    |           | 0.6201   | -0.4559        | 0.3617    | 0.2175   | -0.1024           | 0.2695    |
| Bone         |           |           |          | -0.5528        |           |          |                   | 0.1875    |
| Brain        | 0.4757    | -0.9208   |          | -0.6778        | 0.4639    | 0.4378   | -0.0269           | -0.6021   |
| Heart        | 0.4814    |           |          | -0.3188        | 0.5647    | 0.2355   | 0                 | 0.2856    |
| Intestine    | 0.4829    |           |          | -0.3188        |           | 0.301    | -0.2441           |           |
| Skin         | 0.4249    |           |          | -0.4685        |           | 0.1072   | 4.32E-03          | 0.1106    |
| Lungs        | 0.5132    | -0.2924   |          | -0.4949        | 1.891     | 0.243    | -0.0362           | 0.1673    |
| Spleen       | 0.3692    | -0.4815   |          | -0.4815        |           |          | -0.0655           | 0.3201    |
| Adipose      | 0.776     |           | 2.2504   | -1.0458        |           | -0.3279  | -0.1549           | -0.699    |
| Liver        | 1.0531    |           | 1.1492   | -0.2441        | 1.0414    | 0.6821   |                   | 0.3444    |
| Kidney       | 0.5079    |           |          | -0.2757        | 0.918     | 1.2504   | 0.1106            | 0.8414    |
| Stomach      | 0.4871    |           |          |                |           |          |                   |           |
| Pancreas     |           |           |          |                |           |          |                   |           |

| Tissues/Drug | Oxprenolol | Pefloxacin | Penicillin | Pentazocine | Perchloroethylene | Phencyclidine | Phenobarbital | Phenytoin |
|--------------|------------|------------|------------|-------------|-------------------|---------------|---------------|-----------|
| Muscle       | 0.6551     | 0.4099     | -0.9586    | 0.6149      | 0.2648            | 0.1303        | -0.0862       | -0.0969   |
| Bone         | 0.4409     |            |            | 0.5798      |                   |               |               |           |
| Brain        | 0.3747     | -0.7696    |            | 0.4829      | 0.4728            | 0.3598        |               | -0.1427   |
| Heart        | 0.7218     | 0.3979     | -0.7696    | 0.5798      |                   | 0.29          | -0.0915       | -0.0969   |
| Intestine    | 1.2095     |            | 0.243      | 0.5119      |                   |               | 0.1072        | 0.1903    |
| Skin         | 0.3032     |            |            | 0.5119      |                   |               | 4.32E-03      | 0.0414    |
| Lungs        | 1.3838     | 0.3139     | -0.5528    | 1.2788      |                   | 1.5623        | -0.2007       | -0.1249   |
| Spleen       |            | 0.5599     | -0.7696    |             |                   |               |               |           |
| Adipose      | -0.0809    |            |            | 0.2405      | 2.0719            | 1.7396        | -0.6383       | 0.2175    |
| Liver        | 1.1303     | 0.7543     | -0.3468    | 0.243       | 0.4099            | 0.8555        | 0.1818        | 0.3579    |
| Kidney       | 1.3139     | 0.6425     | 0.828      | 1.1818      | 0.3802            | 1.0212        | -0.2147       | 0.1987    |
| Stomach      |            |            |            |             |                   |               |               |           |
| Pancreas     |            |            |            |             |                   |               |               |           |

| Tissues/Drug | Pindolol | Pipemidic acid | p-Phenylbenzoic acid | Procainamide | Propanolol | Prucalopride | Pseudocumene | Quinidine |
|--------------|----------|----------------|----------------------|--------------|------------|--------------|--------------|-----------|
| Muscle       | 0.7745   | 0.1461         | -0.8539              | 0.49         | 0.6628     | 0.4771       | 0.0828       | 0.4857    |
| Bone         | 0.29     | 0.3784         |                      |              | 0.6739     |              |              |           |
| Brain        | 0.5944   | -0.8861        | -1                   |              | 1.238      | -0.5528      | 0.4031       | -0.1938   |
| Heart        | 0.9652   | 0              | -0.3872              | 0.3909       | 0.9657     | 0.4502       |              | 0.617     |
| Intestine    | 1.243    |                | -0.5686              |              | 1.2833     |              |              | 0.8579    |
| Skin         | 0.3324   |                | -0.5686              |              | 0.5623     |              |              |           |
| Lungs        | 1.3927   | 0.0682         | -0.301               |              | 1.7619     | 0.8432       |              | 1.4857    |
| Spleen       |          | 0.1875         | -0.7447              |              |            |              |              | 1.2304    |
| Adipose      | -0.2218  | -0.4437        |                      | -0.9208      | 0.2989     |              | 1.7973       |           |
| Liver        | 0.9455   | 0.6893         |                      | 0.5011       | 1.29       | 0.7604       | 0.4031       | 1.0682    |
| Kidney       | 1.49     | 0.8965         |                      | 0.8028       | 1.1303     | 1.0607       |              | 1.1673    |
| Stomach      |          |                |                      |              |            |              |              |           |
| Pancreas     |          |                |                      |              |            |              |              |           |

| Tissues/Drug | Ritanserlin | Sabeluzole | Salicylic acid | Styrene | Sufentanyl | Tenoxicam | Tetracycline | Theophylline |
|--------------|-------------|------------|----------------|---------|------------|-----------|--------------|--------------|
| Muscle       | 0.6075      |            | -0.6021        | -0.0655 | 0.3927     | -1.0969   | 0.301        | -0.2147      |
| Bone         |             |            | -0.585         |         |            | -1        | 0.9504       |              |
| Brain        | 0.4698      | 0.8055     | -1.0458        |         | 0.4771     | -2        |              | -0.4437      |
| Heart        |             |            | -0.4685        |         | 0.415      | -0.7447   |              |              |
| Intestine    |             |            | -0.4202        |         |            | -0.699    | 0.574        |              |
| Skin         |             |            | -0.3098        |         |            | -0.8239   |              |              |
| Lungs        | 1.5079      | 1.5403     | -0.4559        | -0.1938 | 0.9509     | -0.5086   |              | -0.1427      |
| Spleen       |             |            |                |         |            | -1.1549   |              |              |
| Adipose      |             |            |                | 1.6117  |            | -1.5229   | 0.0414       |              |
| Liver        | 1.3979      | 1.6513     | -0.3768        | 0.0719  | -0.1739    | 0.0607    | 0.6721       |              |
| Kidney       | 1.1492      | 1.0899     | -0.0915        |         | 0.2279     | 0.017     | 0.6075       |              |
| Stomach      |             |            |                |         |            |           |              |              |
| Pancreas     |             |            |                |         |            | -0.9208   |              |              |

| Tissues/Drug | Thiopental | Timolol | Tolbutamide | Triazolam | Valproic acid | Verapamil | Zearalenone |
|--------------|------------|---------|-------------|-----------|---------------|-----------|-------------|
| Muscle       | -0.1427    | 0.5763  | -0.8239     | 0.6064    | -0.6778       | 0.6138    | -0.3665     |
| Bone         |            | -0.0458 |             |           |               |           |             |
| Brain        | -0.1308    | -0.0177 | -0.9586     |           | -0.4685       |           | 0.0253      |
| Heart        | 0.0792     | 0.6866  | -0.4815     |           | -0.2366       | 0.8482    | 0.0645      |
| Intestine    | 0.1335     | 1.2625  | -0.8539     | 0.902     | -0.2147       |           | 1.5775      |
| Skin         | 0.1492     | 0.1553  | -0.5528     | 0.5635    | -0.1938       |           |             |
| Lungs        | 0.1239     | 1.3892  | -0.4815     |           | -0.2441       | 1.7694    | 0.3636      |
| Spleen       | -0.2147    |         | -0.6576     |           |               |           | -0.0915     |
| Adipose      | 0.8169     | -0.2366 | -0.8539     | 0.6064    | -0.699        |           | 0.5198      |
| Liver        | 0.5302     | 0.8579  | -0.7696     | 0.3997    | 0.3909        |           | 0.659       |
| Kidney       | 0.4133     | 1.0828  | -0.7959     | 0.752     | 0.3118        | 1.1673    | -0.2596     |
| Stomach      |            |         |             |           |               |           | 0.1139      |
| Pancreas     | 0.0253     |         | -0.7447     |           |               |           |             |