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# APPENDIX

## Appendix A: Raw data of experiment

**Table A1** Water adsorption capacities of poly(S/DVB)HIPEs varied with oil:aqueous phase ratio by volume

| Immersing Time | Oil:aqueous phase ratio | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 10:90 | | 8:92 | | 6:94 | | 4:96 | |
| | WAC* | S.D. | WAC* | S.D. | WAC* | S.D. | WAC* | S.D. |
| 0 min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.5 min | 10.09 | 0.37 | 10.76 | 2.05 | 7.71 | 0.26 | 2.85 | 1.31 |
| 1 min | 10.27 | 0.37 | 15.90 | 2.85 | 13.25 | 0.25 | 7.50 | 3.52 |
| 1.5 min | 10.35 | 0.42 | 16.64 | 3.08 | 18.47 | 0.34 | 10.44 | 4.78 |
| 5 min | 10.40 | 0.44 | 16.93 | 2.92 | 21.46 | 0.43 | 13.44 | 4.92 |
| 10 min | 10.47 | 0.53 | 17.43 | 2.47 | 21.49 | 0.43 | 15.93 | 5.32 |
| 15 min | 10.53 | 0.49 | 17.59 | 2.28 | 21.49 | 0.44 | 18.38 | 5.08 |
| 60 min | 10.55 | 0.48 | 17.75 | 2.04 | 21.53 | 0.24 | 21.72 | 2.31 |
| 1 day | 11.16 | 0.36 | 18.53 | 1.86 | 22.06 | 0.56 | 24.17 | 0.38 |
| 3 day | 12.08 | 0.31 | 19.94 | 1.26 | 22.13 | 0.45 | 27.14 | 0.06 |
| 5 day | 12.32 | 0.19 | 20.67 | 0.78 | 22.18 | 0.37 | 29.22 | 0.15 |
| 1 week | 12.35 | 0.17 | 21.06 | 0.44 | 22.18 | 0.38 | 29.35 | 0.26 |
| 2 week | 12.36 | 0.16 | 21.09 | 0.43 | 22.20 | 0.34 | 29.47 | 0.51 |
| 3 week | 12.37 | 0.17 | 21.19 | 0.56 | 22.20 | 0.50 | 29.50 | 0.51 |
| 4 week | 12.40 | 0.17 | 21.20 | 0.56 | 22.22 | 0.34 | 29.56 | 0.47 |
| 5 week | 12.41 | 0.16 | 21.21 | 0.56 | 22.22 | 0.34 | 29.57 | 0.47 |

*WAC (Water Adsorption Capacity) = $(W_s-W_d)/W_d$

Where $W_s$ and $W_d$ are the weights of the soaked and dry polyHIPEs, respectively.

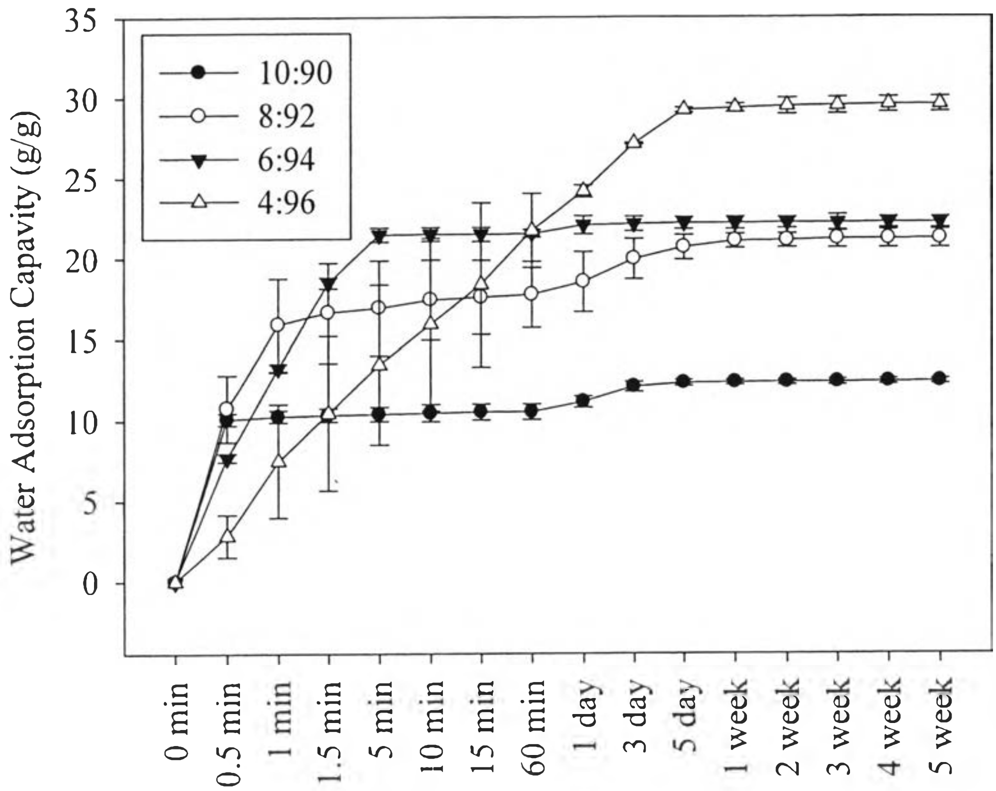


**Figure A1** Water adsorption capacities of poly(S/DVB)HIPEs varied with oil:aqueous phase ratio by volume with interval time.

**Table A2** Water adsorption capacities of poly(S/DVB)HIPEs varied with S:DVB ratio by volume

| **Immersing Time** | **S:DVB ratio** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 80:20 | | 70:30 | | 60:40 | | 0:100 | |
| | **WAC*** | **S.D.** | **WAC*** | **S.D.** | **WAC*** | **S.D.** | **WAC*** | **S.D.** |
| 0 min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.5 min | 10.70 | 1.11 | 0.65 | 0.10 | 1.46 | 1.57 | 0.27 | 0.12 |
| 1 min | 10.77 | 1.01 | 0.91 | 0.09 | 1.67 | 1.56 | 0.36 | 0.15 |
| 1.5 min | 10.83 | 0.92 | 1.06 | 0.06 | 1.79 | 1.54 | 0.44 | 0.19 |
| 5 min | 10.83 | 0.93 | 1.22 | 0.06 | 1.94 | 1.56 | 0.59 | 0.26 |
| 10 min | 10.85 | 0.92 | 1.33 | 0.03 | 2.05 | 1.56 | 0.71 | 0.31 |
| 15 min | 10.88 | 0.89 | 1.42 | 0.07 | 2.16 | 1.53 | 0.83 | 0.39 |
| 60 min | 10.97 | 0.82 | 1.74 | 0.03 | 2.45 | 1.45 | 1.19 | 0.54 |
| 1 day | 11.38 | 0.71 | 3.57 | 0.14 | 4.05 | 1.07 | 2.59 | 0.56 |
| 3 day | 11.88 | 0.29 | 5.28 | 0.18 | 5.57 | 0.97 | 4.00 | 0.54 |
| 5 day | 12.04 | 0.11 | 6.57 | 0.20 | 6.39 | 0.97 | 4.02 | 0.49 |
| 1 week | 12.09 | 0.09 | 7.88 | 0.31 | 7.17 | 0.90 | 4.05 | 0.51 |
| 2 week | 12.11 | 0.09 | 10.16 | 0.35 | 8.86 | 0.44 | 4.05 | 0.51 |
| 3 week | 12.12 | 0.09 | 10.26 | 0.43 | 8.89 | 0.47 | 4.05 | 0.51 |
| 4 week | 12.12 | 0.07 | 10.78 | 0.11 | 10.45 | 0.84 | 4.05 | 0.51 |
| 5 week | 12.12 | 0.07 | 10.86 | 0.07 | 10.55 | 0.90 | 4.05 | 0.51 |
| 6 week | 12.12 | 0.07 | 10.90 | 0.07 | 10.64 | 0.93 | 4.05 | 0.51 |
| 7 week | 12.12 | 0.07 | 10.90 | 0.07 | 10.64 | 0.93 | 4.05 | 0.51 |

*WAC (Water Adsorption Capacity) = $(W_s-W_d)/W_d$

Where $W_s$ and $W_d$ are the weights of the soaked and dry polyHIPEs, respectively.

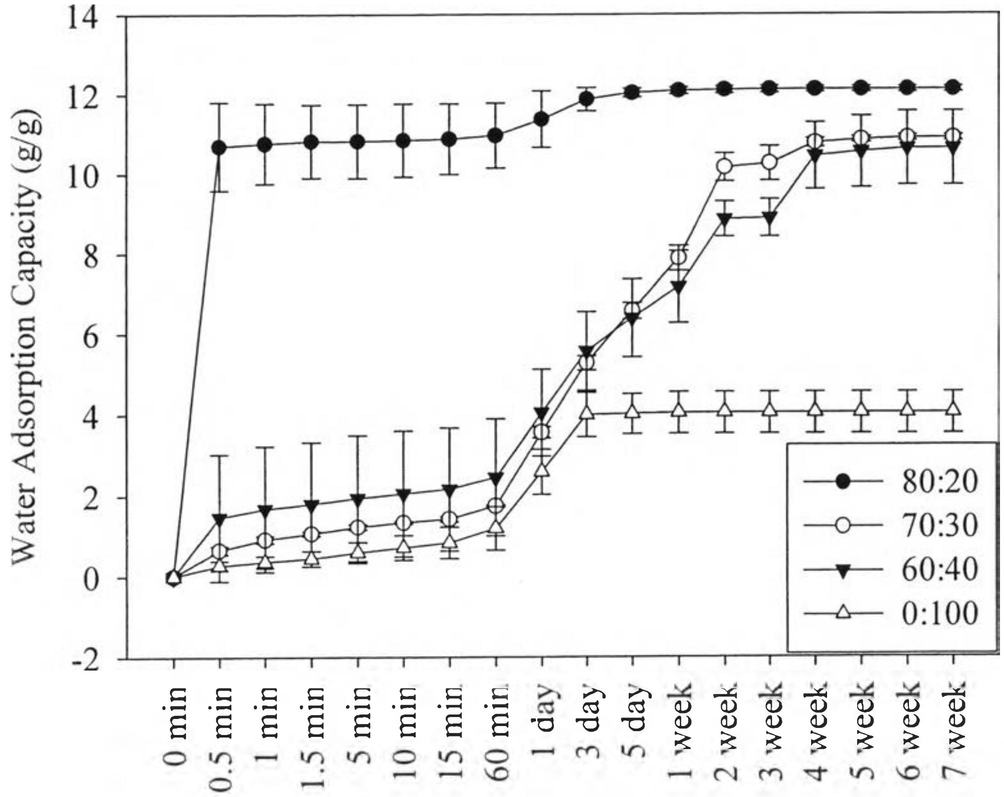


**Figure A2** Water adsorption capacities of poly(S/DVB)HIPEs varied with S:DVB ratio by volume with interval time.

**Table A3** Water adsorption capacities of poly(S/EGDMA)HIPEs varied with S:EGDMA ratio by volume

| Immersing Time | S:EGDMA ratio | | | | | |
|---|---|---|---|---|---|---|
| | 80:20 | | 70:30 | | 60:40 | |
| | **WAC*** | **S.D.** | **WAC*** | **S.D.** | **WAC*** | **S.D.** |
| 0 min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.5 min | 9.45 | 0.48 | 9.84 | 0.82 | 10.39 | 0.81 |
| 1 min | 9.54 | 0.38 | 9.94 | 0.76 | 10.48 | 0.76 |
| 1.5 min | 9.56 | 0.39 | 10.01 | 0.73 | 10.55 | 0.71 |
| 5 min | 9.59 | 0.36 | 10.02 | 0.73 | 10.64 | 0.58 |
| 10 min | 9.60 | 0.37 | 10.03 | 0.73 | 10.66 | 0.59 |
| 15 min | 9.63 | 0.36 | 10.04 | 0.73 | 10.67 | 0.59 |
| 60 min | 9.66 | 0.38 | 10.05 | 0.73 | 10.68 | 0.58 |
| 1 day | 10.42 | 0.27 | 10.48 | 0.68 | 11.05 | 0.60 |
| 3 day | 11.14 | 0.08 | 11.35 | 0.53 | 11.75 | 0.54 |
| 5 day | 11.25 | 0.18 | 11.64 | 0.51 | 11.98 | 0.43 |
| 1 week | 11.26 | 0.17 | 11.78 | 0.41 | 12.11 | 0.32 |
| 2 week | 11.26 | 0.17 | 11.85 | 0.30 | 12.17 | 0.27 |
| 3 week | 11.27 | 0.17 | 11.85 | 0.31 | 12.18 | 0.28 |
| 4 week | 11.29 | 0.18 | 11.87 | 0.29 | 12.18 | 0.28 |
| 5 week | 11.30 | 0.17 | 11.87 | 0.29 | 12.19 | 0.28 |
| 6 week | 11.30 | 0.17 | 11.89 | 0.31 | 12.20 | 0.29 |
| 7 week | 11.30 | 0.17 | 11.89 | 0.31 | 12.20 | 0.29 |

*WAC (Water Adsorption Capacity) = $(W_s - W_d)/W_d$

Where $W_s$ and $W_d$ are the weights of the soaked and dry polyHIPEs, respectively.

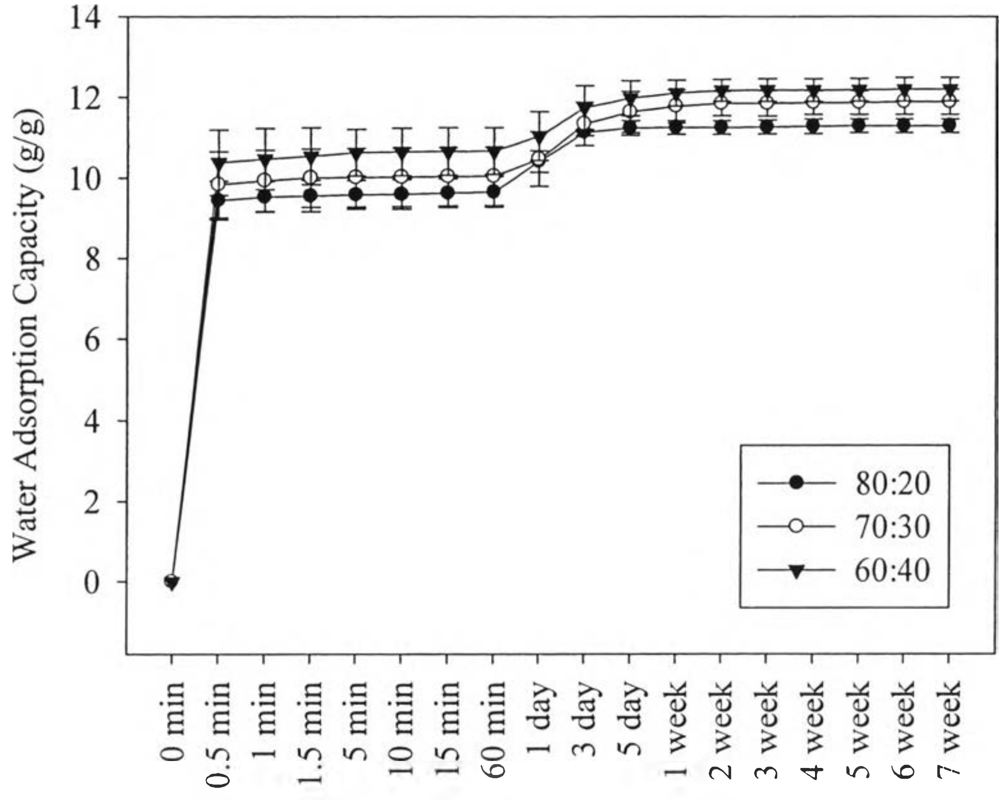


**Figure A3** Water adsorption capacities of poly(S/EGDMA)HIPEs varied with S:EGDMA ratio by volume with interval time.

**Table A4** Nitrogen adsorption/desorption isotherm of NaCl, 10:90 oil:aqueous phase ratio and 80:20 S:DVB ratio of poly(S/DVB)HIPEs

| **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** | **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** |
|---|---|---|---|
| 0.050848 | 1.0178 | 0.993600 | 51.3568 |
| 0.100255 | 2.2646 | 0.950871 | 49.0850 |
| 0.150128 | 3.6610 | 0.898831 | 46.9281 |
| 0.200036 | 5.0666 | 0.850646 | 44.8055 |
| 0.249872 | 6.8436 | 0.798937 | 42.4947 |
| 0.300495 | 10.5787 | 0.750691 | 40.4084 |
| 0.349448 | 12.7508 | 0.698928 | 37.8595 |
| 0.399535 | 14.8836 | 0.650590 | 35.5752 |
| 0.449429 | 17.2599 | 0.598858 | 33.0556 |
| 0.499295 | 19.4418 | 0.550783 | 30.4518 |
| 0.550760 | 22.2860 | 0.498920 | 27.8965 |
| 0.599240 | 24.6060 | 0.450816 | 25.3790 |
| 0.649210 | 26.9016 | 0.399056 | 22.7111 |
| 0.700698 | 29.6191 | 0.350994 | 20.0893 |
| 0.750900 | 32.4193 | 0.299007 | 17.3054 |
| 0.800638 | 34.9680 | 0.250934 | 14.5132 |
| 0.850647 | 37.5093 | 0.198823 | 11.4717 |
| 0.900782 | 39.8149 | 0.150802 | 8.5935 |
| 0.950694 | 42.1162 | 0.098763 | 5.3642 |
| 0.995388 | 51.0741 | 0.050498 | 2.3120 |

**Table A5** Nitrogen adsorption/desorption isotherm of NaCl, 8:92 oil:aqueous phase ratio and 80:20 S:DVB ratio of poly(S/DVB)HIPEs

| **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** | **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** |
|---|---|---|---|
| 0.050936 | 0.7661 | 0.993730 | 20.2924 |
| 0.100795 | 1.5501 | 0.949605 | 19.6540 |
| 0.150826 | 2.2015 | 0.901175 | 18.7586 |
| 0.200813 | 3.0210 | 0.849060 | 18.4118 |
| 0.250765 | 3.6475 | 0.800086 | 18.8924 |
| 0.300879 | 4.0315 | 0.748923 | 18.3840 |
| 0.350543 | 4.9771 | 0.699942 | 18.0535 |
| 0.400595 | 5.7460 | 0.648764 | 17.4986 |
| 0.450523 | 6.3475 | 0.599665 | 17.2043 |
| 0.500711 | 7.0246 | 0.550639 | 16.2079 |
| 0.550504 | 7.7015 | 0.498988 | 15.0066 |
| 0.600555 | 7.9005 | 0.449764 | 14.0041 |
| 0.650490 | 15.4427 | 0.400538 | 13.0438 |
| 0.700277 | 16.2706 | 0.348835 | 11.8000 |
| 0.750600 | 16.9132 | 0.299004 | 11.2367 |
| 0.800609 | 17.7229 | 0.249089 | 11.2120 |
| 0.850686 | 17.8802 | 0.199750 | 9.2632 |
| 0.900362 | 18.3428 | 0.150523 | 7.0335 |
| 0.950445 | 19.4549 | 0.098815 | 4.6843 |
| 0.995355 | 20.5774 | 0.048938 | 2.0220 |

**Table A6** Nitrogen adsorption/desorption isotherm of NaCl, 6:94 oil:aqueous phase ratio and 80:20 S:DVB ratio of poly(S/DVB)HIPEs

| **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** | **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** |
|---|---|---|---|
| 0.050988 | 0.7373 | 0.993484 | 16.2891 |
| 0.100849 | 1.3108 | 0.949662 | 15.1514 |
| 0.150814 | 1.8791 | 0.900055 | 14.8462 |
| 0.200805 | 2.5513 | 0.850327 | 14.8395 |
| 0.250812 | 3.0799 | 0.800457 | 14.5883 |
| 3.007720 | 13.5914 | 0.750601 | 14.0515 |
| 0.350799 | 3.9278 | 0.700485 | 5.9551 |
| 0.400629 | 4.5628 | 0.650624 | 13.3168 |
| 0.450609 | 4.9795 | 0.600673 | 12.6522 |
| 0.500613 | 5.2085 | 0.550618 | 12.0232 |
| 0.550646 | 5.3137 | 0.500601 | 11.2785 |
| 0.600586 | 5.6754 | 0.450371 | 10.5783 |
| 0.650523 | 5.8994 | 0.400232 | 9.4553 |
| 0.700659 | 13.7793 | 0.349943 | 8.4781 |
| 0.749867 | 13.3441 | 0.299641 | 7.4147 |
| 0.800305 | 13.5862 | 0.249347 | 6.3214 |
| 0.850236 | 14.0496 | 0.199462 | 4.9206 |
| 0.900156 | 14.5180 | 0.149459 | 3.6494 |
| 0.950194 | 14.7719 | 0.099570 | 2.1141 |
| 0.995047 | 15.6871 | 0.048758 | 0.7636 |

**Table A7** Nitrogen adsorption/desorption isotherm of NaCl, 4:96 oil:aqueous phase ratio and 80:20 S:DVB ratio of poly(S/DVB)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.051099 | 2.2659 | 0.993436 | 55.0986 |
| 0.100701 | 3.8555 | 0.949132 | 45.4698 |
| 0.150720 | 5.3570 | 0.900003 | 43.1308 |
| 0.200670 | 7.0799 | 0.850626 | 41.3658 |
| 0.250625 | 8.7654 | 0.800993 | 40.4908 |
| 0.300507 | 10.6877 | 0.748941 | 38.9634 |
| 0.349974 | 14.9523 | 0.700233 | 30.8174 |
| 0.400247 | 17.8308 | 0.650032 | 35.9681 |
| 0.450224 | 20.2828 | 0.600307 | 0.6003 |
| 0.500288 | 22.2764 | 0.550560 | 32.4238 |
| 0.550153 | 24.6767 | 0.500835 | 29.9917 |
| 0.600051 | 27.3698 | 0.447337 | 34.2276 |
| 0.650273 | 29.0661 | 0.399690 | 31.5537 |
| 0.699671 | 37.3874 | 0.349956 | 28.2215 |
| 0.749959 | 33.4843 | 0.300044 | 25.1144 |
| 0.800071 | 35.5072 | 0.250177 | 21.3491 |
| 0.850155 | 36.7998 | 0.200281 | 17.6055 |
| 0.899954 | 38.7985 | 0.150412 | 13.6315 |
| 0.949463 | 42.8337 | 0.100603 | 9.3600 |
| 0.994590 | 55.2336 | 0.050527 | 4.7152 |

**Table A8** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 80:20 S:DVB ratio of poly(S/DVB)HIPEs

| **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** | **Relative Pressure ($P/P_0$)** | **Volume (cc/g)** |
|---|---|---|---|
| 0.050998 | 0.3367 | 0.993589 | 3.3029 |
| 0.100894 | 0.5344 | 0.946250 | 7.8245 |
| 0.150742 | 0.8767 | 0.899032 | 8.2814 |
| 0.200821 | 1.1391 | 0.849483 | 8.3424 |
| 0.250771 | 1.3813 | 0.799796 | 8.3225 |
| 0.300742 | 1.6535 | 0.750125 | 8.3981 |
| 0.350615 | 1.9433 | 0.700496 | 3.0374 |
| 0.400636 | 2.1545 | 0.650637 | 8.0296 |
| 0.450625 | 2.4063 | 0.600906 | 0.6009 |
| 0.500635 | 2.5643 | 0.548838 | 7.4792 |
| 0.550478 | 2.7884 | 0.499504 | 7.1408 |
| 0.600490 | 2.9209 | 0.449688 | 6.6669 |
| 0.650492 | 3.0477 | 0.399785 | 6.1638 |
| 0.700402 | 8.2578 | 0.349764 | 5.5489 |
| 0.750854 | 3.0535 | 0.299771 | 5.0296 |
| 0.800390 | 3.0128 | 0.249537 | 4.4150 |
| 0.850363 | 3.0352 | 0.199414 | 3.6697 |
| 0.900373 | 2.9455 | 0.149420 | 3.2340 |
| 0.950197 | 3.0028 | 0.099543 | 2.3750 |
| 0.995147 | 3.2675 | 0.048949 | 1.2626 |

**Table A9** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 70:30 S:DVB ratio of poly(S/DVB)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.051228 | 0.3876 | 0.993815 | 9.3390 |
| 0.100838 | 0.6684 | 0.950507 | 7.9140 |
| 0.150828 | 0.9160 | 0.898861 | 7.8090 |
| 0.200788 | 1.1797 | 0.849822 | 7.4771 |
| 0.250766 | 1.4624 | 0.800646 | 7.2416 |
| 0.300910 | 1.7074 | 0.749150 | 6.7635 |
| 0.350700 | 1.9398 | 0.700443 | 3.0396 |
| 0.400625 | 2.2458 | 0.650289 | 6.3757 |
| 0.450633 | 2.3860 | 0.600830 | 0.6008 |
| 0.500586 | 2.5436 | 0.548856 | 5.8160 |
| 0.550530 | 2.7760 | 0.498017 | 7.3200 |
| 0.600511 | 2.8624 | 0.449452 | 6.9836 |
| 0.650521 | 2.9047 | 0.399994 | 6.2710 |
| 0.699838 | 6.4738 | 0.350406 | 5.6069 |
| 0.750848 | 3.0530 | 0.300771 | 4.9408 |
| 0.800317 | 3.2046 | 0.248829 | 4.0768 |
| 0.850379 | 5.6979 | 0.199655 | 3.2737 |
| 0.899906 | 6.2323 | 0.149919 | 2.3524 |
| 0.949817 | 6.8489 | 0.100265 | 1.4512 |
| 0.995287 | 9.4741 | 0.050423 | 0.4139 |

**Table A10** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 60:40 S:DVB ratio of poly(S/DVB)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.051288 | 0.4721 | 0.993493 | 5.1866 |
| 0.100860 | 0.8066 | 0.950019 | 4.3596 |
| 0.150900 | 1.1479 | 0.899409 | 4.4028 |
| 0.200872 | 1.4727 | 0.849226 | 4.4987 |
| 0.250838 | 1.7866 | 0.799225 | 4.6170 |
| 0.300795 | 2.0655 | 0.749268 | 4.5996 |
| 0.350804 | 2.3282 | 0.700530 | 3.3475 |
| 0.400852 | 2.5211 | 0.649344 | 4.1036 |
| 0.450777 | 2.7245 | 0.599399 | 0.5994 |
| 0.500648 | 3.0606 | 0.548894 | 4.3077 |
| 0.550624 | 3.2202 | 0.499235 | 4.3028 |
| 0.600663 | 3.3153 | 0.449321 | 4.0639 |
| 0.650524 | 3.3612 | 0.399285 | 3.8155 |
| 0.699334 | 4.3041 | 0.349166 | 3.5919 |
| 0.750641 | 3.1820 | 0.299114 | 3.3586 |
| 0.800429 | 3.1664 | 0.249085 | 3.0124 |
| 0.850457 | 3.1630 | 0.199157 | 2.6111 |
| 0.900395 | 3.2863 | 0.149120 | 2.3639 |
| 0.950182 | 3.6553 | 0.099345 | 1.7339 |
| 0.994467 | 5.2479 | 0.049983 | 1.1670 |

**Table A11** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 0:100 S:DVB ratio of poly(S/DVB)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.049509 | 2.7621 | 0.993396 | 79.6868 |
| 0.100288 | 3.8316 | 0.950607 | 48.9121 |
| 0.150420 | 4.6901 | 0.899554 | 28.6237 |
| 0.200398 | 5.5027 | 0.850174 | 18.7082 |
| 0.250414 | 6.2049 | 0.799845 | 13.2524 |
| 0.299430 | 8.2892 | 0.749223 | 11.1590 |
| 0.350168 | 9.2745 | 0.699787 | 16.3336 |
| 0.400146 | 10.2923 | 0.649158 | 8.2761 |
| 0.450084 | 11.2023 | 0.599708 | 0.5997 |
| 0.500066 | 12.1020 | 0.550106 | 6.8649 |
| 0.549878 | 13.1938 | 0.500486 | 6.0920 |
| 0.599928 | 14.1349 | 0.450479 | 5.7363 |
| 0.649722 | 15.3222 | 0.400379 | 5.3730 |
| 0.700457 | 9.6897 | 0.350179 | 4.9302 |
| 0.749522 | 17.8265 | 0.299827 | 4.4921 |
| 0.799326 | 19.2823 | 0.249425 | 4.2301 |
| 0.850374 | 21.9298 | 0.199099 | 3.8480 |
| 0.899114 | 26.3422 | 0.149282 | 3.3763 |
| 0.949908 | 39.2396 | 0.099398 | 2.8349 |
| 0.994876 | 79.3545 | 0.048894 | 2.0748 |

**Table A12** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 80:20 S:EGDMA ratio of poly(S/EGDMA)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.051113 | 0.4767 | 0.993150 | 18.2078 |
| 0.100772 | 0.9786 | 0.949934 | 17.5086 |
| 0.150535 | 1.5359 | 0.898853 | 17.1352 |
| 0.200511 | 2.1658 | 0.850230 | 16.8004 |
| 0.250499 | 2.8181 | 0.798955 | 16.2647 |
| 0.299306 | 4.7856 | 0.749403 | 16.9052 |
| 0.350045 | 5.7962 | 0.699969 | 12.3332 |
| 0.400093 | 6.6989 | 0.648593 | 15.4148 |
| 0.450024 | 7.7253 | 0.599724 | 0.5997 |
| 0.499944 | 8.6602 | 0.548838 | 13.7214 |
| 0.549852 | 9.5978 | 0.499888 | 13.0133 |
| 0.599902 | 10.5577 | 0.448843 | 11.7498 |
| 0.649788 | 11.6057 | 0.399841 | 10.5943 |
| 0.700431 | 16.4346 | 0.350965 | 9.3974 |
| 0.749719 | 13.3416 | 0.298688 | 8.4204 |
| 0.799870 | 14.1150 | 0.249908 | 7.1113 |
| 0.849592 | 15.0759 | 0.198828 | 5.6808 |
| 0.899700 | 15.8127 | 0.150026 | 4.3387 |
| 0.949518 | 16.7617 | 0.098974 | 2.7985 |
| 0.994402 | 17.9993 | 0.050472 | 1.2607 |

**Table A13** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 70:30 S:EGDMA ratio of poly(S/EGDMA)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.051144 | 0.4235 | 0.993388 | 9.9687 |
| 0.100775 | 0.8578 | 0.948460 | 11.2467 |
| 0.150803 | 1.1571 | 0.899582 | 11.0669 |
| 0.200698 | 1.5852 | 0.851036 | 10.0181 |
| 0.250608 | 2.0459 | 0.798634 | 10.1220 |
| 0.300606 | 2.4393 | 0.749374 | 10.0911 |
| 0.350359 | 3.1223 | 0.699494 | 7.3530 |
| 0.400652 | 3.9321 | 0.650491 | 9.8626 |
| 0.450620 | 4.1887 | 0.598680 | 0.5987 |
| 0.500361 | 4.7853 | 0.549573 | 9.2489 |
| 0.550301 | 5.2973 | 0.500109 | 8.7175 |
| 0.600902 | 5.1942 | 0.450680 | 8.1010 |
| 0.650358 | 5.8990 | 0.399104 | 7.0608 |
| 0.699962 | 9.9157 | 0.349266 | 6.8043 |
| 0.749924 | 8.1189 | 0.299442 | 6.2462 |
| 0.800682 | 7.8174 | 0.249799 | 5.3745 |
| 0.850449 | 8.1423 | 0.200442 | 4.1649 |
| 0.899861 | 8.7901 | 0.150874 | 3.2117 |
| 0.950011 | 9.1912 | 0.098855 | 2.0992 |
| 0.995172 | 9.5303 | 0.050167 | 0.9168 |

**Table A14** Nitrogen adsorption/desorption isotherm of $CaCl_2$, 10:90 oil:aqueous phase ratio and 60:40 S:EGDMA ratio of poly(S/EGDMA)HIPEs

| Relative Pressure ($P/P_0$) | Volume (cc/g) | Relative Pressure ($P/P_0$) | Volume (cc/g) |
|---|---|---|---|
| 0.051403 | 0.3216 | 0.993623 | -1.2198 |
| 0.100913 | 0.5798 | 0.949501 | -1.2271 |
| 0.150883 | 0.8116 | 0.900158 | -0.0837 |
| 0.200933 | 0.9670 | 0.847200 | 3.1841 |
| 0.250902 | 1.0692 | 0.798066 | 5.4693 |
| 0.300799 | 1.2492 | 0.749469 | 5.3899 |
| 0.350833 | 1.2828 | 0.700717 | 0.4092 |
| 0.400875 | 1.2811 | 0.648763 | 5.8455 |
| 0.450895 | 1.0973 | 0.599657 | 0.5997 |
| 0.500591 | 1.2227 | 0.550419 | 5.7668 |
| 0.550733 | 1.1370 | 0.498850 | 5.6028 |
| 0.600734 | 0.9265 | 0.449633 | 5.2766 |
| 6.507110 | 10.7325 | 0.400300 | 4.9600 |
| 0.700102 | 6.0066 | 0.350826 | 4.6918 |
| 0.750521 | 0.2547 | 0.298837 | 4.2442 |
| 0.800656 | -0.1628 | 0.249361 | 3.7298 |
| 0.850733 | -0.6775 | 0.199841 | 3.1308 |
| 0.900582 | -1.0747 | 0.150376 | 2.5658 |
| 0.950411 | -1.2721 | 0.100846 | 1.8494 |
| 0.995396 | -1.3876 | 0.049864 | 0.9457 |

**Table A15** Compressive strength and Young's modulus of poly(S/DVB)HIPEs

| Salt | Oil:aqueous phase ratio | S:DVB ratio | Compressive strength (MPa) | Young's modulus (MPa) |
|---|---|---|---|---|
| NaCl | 10:90 | 80:20 | 0.2635±0.0406 | 4.6579±0.8810 |
| | 8:92 | 80:20 | 0.1652±0.0307 | 2.6187±0.8155 |
| | 6:94 | 80:20 | 0.0870±0.0102 | 1.6770±0.1947 |
| | 4:96 | 80:20 | 0.0430±0.0070 | 0.8003±0.2520 |
| $CaCl_2$ | 10:90 | 80:20 | 0.3820±0.0869 | 6.3344±0.6915 |
| | 10:90 | 70:30 | 0.5665±0.0168 | 7.3916±1.1957 |
| | 10:90 | 60:40 | 0.5997±0.0243 | 8.7779±1.9482 |
| | 10:90 | 0:100 | 0.5519±0.0500 | 11.9476±1.8533 |

**Table A16** Compressive strength and Young's modulus of poly(S/EGDMA)HIPEs

| Salt | Oil:aqueous phase ratio | S:EGDMA ratio | Compressive strength (MPa) | Young's modulus (MPa) |
|---|---|---|---|---|
| $CaCl_2$ | 10:90 | 80:20 | 0.2864±0.0088 | 3.7112±1.2995 |
| | 10:90 | 70:30 | 0.3368±0.0083 | 4.5473±0.7447 |
| | 10:90 | 60:40 | 0.3906±0.0075 | 6.2147±0.7847 |

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1. Jindacharin, S.; Nithitanakul, M.; Malakul, P.; Pakeyangkoon, P.; (2013, April 23) Improvement of Water Adsorption Capacity of Polystyrene PolyHIPEs. Proceedings of the 4th Research Symposium on Petrochemical and Materials Technology and the 19th PPC Symposium on Petroleum, Petrochemicals, and Polymers, Bangkok, Thailand.

**Presentations:**

1. Jindacharin, S.; Nithitanakul, M.; Malakul., P.; Pakeyangkoon, P.; (2013, April 23) Improvement of Water Adsorption Capacity of Polystyrene PolyHIPEs. Poster presented at the 4th Research Symposium on Petrochemical and Materials Technology and the 19th PPC Symposium on Petroleum, Petrochemicals, and Polymers, Bangkok, Thailand.
2. Jindacharin, S.; Nithitanakul, M.; Malakul., P.; Pakeyangkoon, P.; (2013, April 4) High Porous Material from Poly(Styrene/Ethylene Glycol Dimethacrylate)HIPE for Agriculture Application. Poster presented at the 2013 MRS Spring Meeting & Exhibit, San Francisco, United States of America.