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APPENDICES

Appendix A *m*-CNB/*p*-CNB Ratio of the Precipitates without and with 5 and 10 Grains of Zeolites in the Feed at 61 and 65 wt% *m*-CNB

Table A1 *m*-CNB/*p*-CNB ratio of the precipitates without and with 5 and 10 grains of zeolites in the feed at 61 wt% *m*-CNB

| Zeolite | Precipitate near zeolite | | Precipitate far from zeolite | |
|-----------------|--------------------------|-----------|------------------------------|-----------|
| | 5 grains | 10 grains | 5 grains | 10 grains |
| Without zeolite | 0.0679 | 0.0679 | 0.0679 | 0.0679 |
| NaX | 0.0661 | 0.0806 | 0.1153 | 0.1364 |
| CaX | 0.0538 | 0.0801 | 0.0738 | 0.1270 |
| BaX | 0.0525 | 0.0677 | 0.0540 | 0.0880 |
| NaY | 0.0601 | 0.0728 | 0.0831 | 0.1097 |
| CaY | 0.0680 | 0.0852 | 0.0869 | 0.1614 |

Table A2 *m*-CNB/*p*-CNB ratio of the precipitates without and with 5 grains of zeolites in the feed at 65 wt% *m*-CNB

| Zeolite | Precipitate near zeolite | Precipitate far from zeolite |
|-----------------|--------------------------|------------------------------|
| Without zeolite | 11.9157 | 11.9157 |
| NaX | 0.0530 | 0.0779 |
| CaX | 0.0507 | 0.0676 |
| BaX | 0.0537 | 0.1026 |
| NaY | 0.0516 | 0.0668 |
| CaY | 0.0481 | 0.0690 |

Table A3 *m*-CNB/*p*-CNB ratio of all precipitates without and with the 5 grains of zeolites in the feed at 61 and 65 wt% *m*-CNB

| Zeolite | 61 wt% <i>m</i> -CNB | | | 65 wt% <i>m</i> -CNB | | |
|-----------------|-------------------------------|---------------|---------------------------------|-------------------------------|---------------|---------------------------------|
| | Precipitate composition (wt%) | | <i>m</i> -/ <i>p</i> -CNB ratio | Precipitate composition (wt%) | | <i>m</i> -/ <i>p</i> -CNB ratio |
| | <i>m</i> -CNB | <i>p</i> -CNB | | <i>m</i> -CNB | <i>p</i> -CNB | |
| Without zeolite | 8.92 | 91.08 | 0.0979 | 89.85 | 10.5 | 8.8522 |
| NaX | 10.38 | 89.62 | 0.1158 | 8.89 | 91.11 | 0.0976 |
| CaX | 9.44 | 90.56 | 0.1042 | 8.81 | 91.19 | 0.0966 |
| BaX | 9.19 | 90.81 | 0.1012 | 8.77 | 91.23 | 0.0961 |
| NaY | 8.67 | 91.33 | 0.0949 | 8.63 | 91.37 | 0.0945 |
| CaY | 9.71 | 90.29 | 0.1075 | 9.24 | 90.76 | 0.1018 |

Appendix B *m/p*-CNB Ratio of the Precipitates with 61 wt% and 65 wt% *m*-CNB in the Feed and 2 Grains of Each Type of Zeolites

Table B1 *m/p*-CNB ratio of the precipitates with 61 wt% *m*-CNB in the feed and 2 grains of each type of zeolites

| Zeolite | Precipitate composition (wt%) | | <i>m/p</i> -CNB ratio | All precipitate composition (wt%) | | <i>m/p</i> -CNB ratio |
|---------|-------------------------------|---------------|-----------------------|-----------------------------------|---------------|-----------------------|
| | <i>m</i> -CNB | <i>p</i> -CNB | | <i>m</i> -CNB | <i>p</i> -CNB | |
| BaX | 7.12 [1] | 92.88 [1] | 0.0767 | | | |
| NaY | 4.27 [2] | 95.73 [2] | 0.0446 | | | |
| CaX | 5.50 [3] | 94.50 [3] | 0.0582 | 7.70 | 92.30 | 0.0834 |
| NaX | 10.91 [4] | 89.09 [4] | 0.1225 | | | |
| CaY | 7.68 [5] | 92.32 [5] | 0.0832 | | | |

Table B2 *m/p*-CNB ratio of the precipitates with 65 wt% *m*-CNB in the feed and 2 grains of each type of zeolites

| Zeolite | Precipitate composition (wt%) | | <i>m/p</i> -CNB ratio | All precipitate composition (wt%) | | <i>m/p</i> -CNB ratio |
|---------|-------------------------------|---------------|-----------------------|-----------------------------------|---------------|-----------------------|
| | <i>m</i> -CNB | <i>p</i> -CNB | | <i>m</i> -CNB | <i>p</i> -CNB | |
| BaX | 5.78 [1] | 94.22 [1] | 0.0613 | | | |
| NaY | 4.45 [2] | 95.55 [2] | 0.0466 | | | |
| CaX | 5.75 [3] | 94.25 [3] | 0.0610 | 6.88 | 93.12 | 0.0739 |
| NaX | 5.24 [4] | 94.76 [4] | 0.0553 | | | |
| CaY | 4.97 [5] | 95.03 [5] | 0.0523 | | | |

Appendix C *m*-CNB/*p*-CNB Ratio of the Precipitates with *m*-CNB seed, *p*-CNB seed, and *m*- and *p*-CNB Seeds in the Feed at 61 and 65 wt% *m*-CNB

Table C1 *m*-CNB/*p*-CNB ratio of the precipitates with *m*-CNB seed, *p*-CNB seed and *m*-CNB and *p*-CNB seeds in the feed at 61 wt% *m*-CNB and 65 wt% *m*-CNB

| Seed | 61 wt% <i>m</i> -CNB | | | 65 wt% <i>m</i> -CNB | | |
|-----------------------------------|-----------------------------------|---------------|--------------------------------|-----------------------------------|---------------|--------------------------------|
| | All precipitate composition (wt%) | | <i>m</i> / <i>p</i> -CNB ratio | All precipitate composition (wt%) | | <i>m</i> / <i>p</i> -CNB ratio |
| | <i>m</i> -CNB | <i>p</i> -CNB | | <i>m</i> -CNB | <i>p</i> -CNB | |
| <i>m</i> -CNB seed | - | - | - | 81.65 | 18.35 | 4.4496 |
| <i>p</i> -CNB seed | 8.33 | 91.67 | 0.0909 | - | - | - |
| <i>m</i> - and <i>p</i> -CNB seed | 9.19 | 90.81 | 0.1012 | 74.04 | 25.96 | 2.8521 |

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