

## Supporting information

### Self-assembly structural transition of protic ionic liquids and P123 for inducing hierarchical porous materials

Table S1 the experiment conditions with the sample's abbreviations

| <b>materials</b> | <b>NTA to P123</b> | <b>the pH of the solution</b> |
|------------------|--------------------|-------------------------------|
| NTA-2            | $\infty$           | 2                             |
| P123-2           | 0                  | 2                             |
| NTA-30-2         | 30                 | 2                             |
| NTA-40-2         | 40                 | 2                             |
| NTA-50-2         | 50                 | 2                             |
| NTA-60-2         | 60                 | 2                             |
| NTA-70-2         | 70                 | 2                             |
| NTA-40-3         | 40                 | 3                             |
| NTA-40-5         | 40                 | 5                             |
| NTA-40-7         | 40                 | 7                             |
| NTA-40-9         | 40                 | 9                             |
| NTA-40-13        | 40                 | 13                            |