Table 1. Effect of PC on volume fraction

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | with transition zone of 2 layers | with transition zone of 2 layers | with transition zone of 2 layers | with transition zone of 4 layers |
| Simulation | 0.288 | 0.288 | 0.289 | 0.285 |
| Measurement | 0.3±0.004 | 0.292±0.005 | 0.29±0.002 | 0.31±0.005 |

Table 2. Effect of PC on specific surface area

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | with transition zone of 2 layers | with transition zone of 2 layers | with transition zone of 2 layers | with transition zone of 4 layers |
| Simulation (1/mm) | 1.71 | 1.5 | 1.4 | 1.65 |

Table 3. Comparison of elastic moduli (part I)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | with transition zone of 2 layers (orange in Fig. 8) | with transition zone of 2 layers (red in Fig. 8) | with transition zone of 2 layers (blue in Fig. 8) | with transition zone of 4 layers (purple in Fig. 8) | WF method  (gray in Fig. 8) | PM method  (brown in Fig. 8) |
| Simulation (MPa) | 44.75 | 67.25 | 90.75 | 34.75 | Null | 51.57 |
| Measurement (MPa) | 50.2±0.2 | 70.6±1.7 | 90.5±2.2 | 38.6±0.6 | 32.5±0.7 | 52.4±0.4 |

|  |  |  |
| --- | --- | --- |
|  | Standard (Fig. 10a) | Graded  (Fig. 10b) |
| Simulation (MPa) | 61.4 | 72.5 |
| Measurement (MPa) | 54.1±2.2 | 67.6±4 |

Table 4. Comparison of elastic moduli (part II)

Table 5. Volume fractions of the four lattices

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | WF method  (gray in Fig. 8) | PM method  (brown in Fig. 8) | Standard  (Fig. 10a) | Graded  (Fig. 10b) |
| Simulation | 0.244 | 0.282 | 0.287 | 0.28 |
| Measurement | 0.25±0.005 | 0.29±0.003 | 0.29±0.002 | 0.3±0.006 |