

# **Qualitative and Quantitative Correlation of Microstructural Properties and in Vitro Glucose Adsorption and Diffusion Behaviors of Pea Insoluble Dietary Fiber Induced by Ultrafine Grinding**

## **Supplementary Materials**

Lingyi Li <sup>1,2</sup>, Jianfu Liu <sup>1,2,\*</sup>, Yang Zhang <sup>1,2</sup>, Qian Wang <sup>1,2</sup> and Jinrong Wang <sup>1,2</sup>

<sup>1</sup> Tianjin Key Laboratory of Food and Biotechnology, School of Biotechnology and Food Science,  
Tianjin University of Commerce, No. 409 Guangrong Road, Beichen District, Tianjin 300134, China

<sup>2</sup> Tianjin International Joint Research and Development Center, No. 409 Guangrong Road, Beichen  
District, Tianjin 300134, China

\* Corresponding Author: ljf@tjcu.edu.cn

**Table S1.** SSA, PV, and CrI values of PIDF samples at different scales.

| Sample | SSA (m <sup>2</sup> /g)  | PV (cm <sup>3</sup> /kg)  | CrI (%)                   |
|--------|--------------------------|---------------------------|---------------------------|
| BM0    | 0.12 ± 0.00 <sup>a</sup> | 0.98 ± 0.01 <sup>a</sup>  | 41.51 ± 0.73 <sup>d</sup> |
| BM30   | 1.03 ± 0.04 <sup>b</sup> | 7.54 ± 0.03 <sup>b</sup>  | 39.53 ± 0.46 <sup>d</sup> |
| BM60   | 1.43 ± 0.04 <sup>c</sup> | 10.83 ± 0.06 <sup>c</sup> | 41.58 ± 0.68 <sup>d</sup> |
| BM100  | 1.46 ± 0.04 <sup>c</sup> | 12.31 ± 0.06 <sup>d</sup> | 41.45 ± 0.69 <sup>d</sup> |
| BM160  | 1.93 ± 0.05 <sup>d</sup> | 14.39 ± 0.07 <sup>e</sup> | 36.13 ± 0.84 <sup>c</sup> |
| BM240  | 2.31 ± 0.03 <sup>e</sup> | 15.66 ± 0.07 <sup>f</sup> | 29.58 ± 0.68 <sup>b</sup> |
| BM400  | 3.27 ± 0.06 <sup>f</sup> | 18.67 ± 0.06 <sup>g</sup> | 12.33 ± 0.76 <sup>a</sup> |

Values in same column with different letters are significantly different ( $p < 0.05$ ).

**Table S2.** Surface elemental characteristics of PIDF at different scales.

| Sample | O/C                       | C1 (%)                    | C2 (%)                    | C3 (%)                    |
|--------|---------------------------|---------------------------|---------------------------|---------------------------|
| BM0    | 0.35 ± 0.02 <sup>a</sup>  | 49.08 ± 0.65 <sup>e</sup> | 37.02 ± 1.41 <sup>a</sup> | 13.91 ± 0.77 <sup>a</sup> |
| BM30   | 0.43 ± 0.01 <sup>b</sup>  | 38.98 ± 1.02 <sup>d</sup> | 41.01 ± 0.12 <sup>b</sup> | 20.02 ± 0.90 <sup>b</sup> |
| BM60   | 0.47 ± 0.00 <sup>c</sup>  | 35.05 ± 0.12 <sup>c</sup> | 48.89 ± 0.11 <sup>c</sup> | 16.07 ± 0.23 <sup>a</sup> |
| BM100  | 0.48 ± 0.01 <sup>c</sup>  | 34.15 ± 1.23 <sup>c</sup> | 49.30 ± 1.47 <sup>c</sup> | 16.55 ± 0.24 <sup>a</sup> |
| BM160  | 0.52 ± 0.00 <sup>d</sup>  | 27.83 ± 1.05 <sup>b</sup> | 56.14 ± 0.43 <sup>d</sup> | 16.03 ± 1.48 <sup>a</sup> |
| BM240  | 0.54 ± 0.01 <sup>de</sup> | 24.26 ± 0.88 <sup>a</sup> | 59.45 ± 0.85 <sup>e</sup> | 16.30 ± 1.73 <sup>a</sup> |
| BM400  | 0.56 ± 0.01 <sup>ef</sup> | 23.71 ± 0.95 <sup>a</sup> | 62.99 ± 0.23 <sup>f</sup> | 13.30 ± 0.72 <sup>a</sup> |

Values in same column with different letters are significantly different ( $p < 0.05$ ).