Supplementary Material for.

Comparison analysis of the calculation methods for particle diameter

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The schematic of Feret diameter is shown in Figure S1. The Feret diameter is the distance between two parallel tangents to the contour of the particle in a certain direction. As to the ellipse, the Feret diameter varied with the positions of two parallel tangents as shown in Figure S1(a). While Figure S1(b) presented that the Feret diameter in sphere was the same.
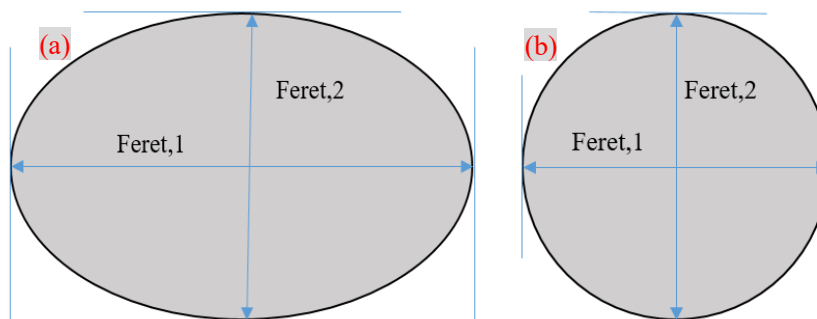

Figure S1 The schematic of Feret diameter
(a) ellipse, (b) sphere

The schematic of diameter is shown in Figure S2. The diameter is the average length of the diameters passing through the centroid of the particle. Figure S2(a) indicated that the diameter in ellipse varied with the directions, while the diameter in sphere was fixed as shown in Figure S2(b).
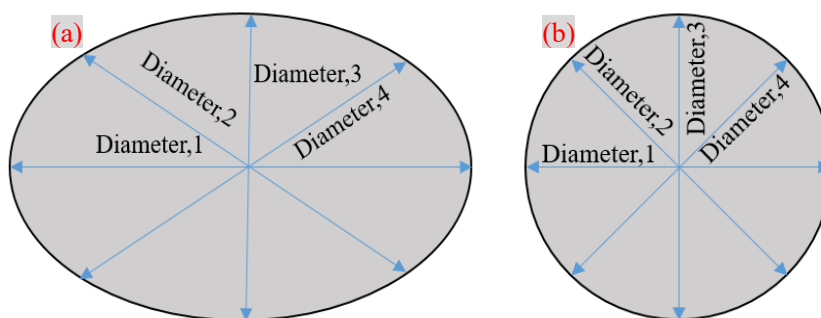
Figure S2 The schematic of diameter
(a) ellipse, (b) sphere

The schematic of equivalent diameter is shown in Figure S3. The ellipse and sphere had the same area, and the diameter of sphere (Li) was the equivalent diameter.
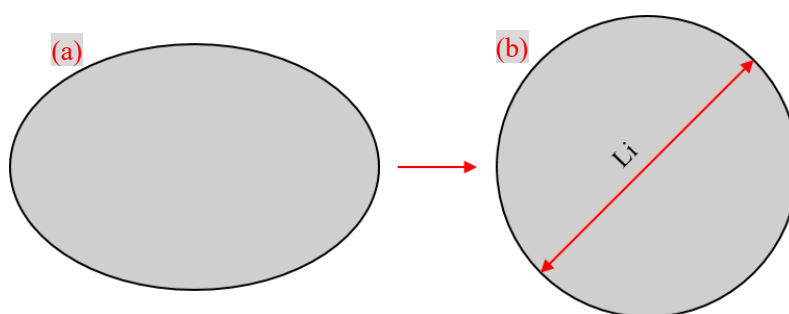

Figure S3 The schematic of Equivalent diameter
(a) ellipse, (b) sphere