

Supporting Information

Achieving Enhanced EMI Shielding and Microwave Absorption Capacity of Cellulose-derived Carbon Aerogel via Tuning Carbonization Temperature

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Calculation of density and porosity

The density was calculated using the following equation:

$$\rho = \frac{m}{V}$$

Where m and V are the mass and bulk volume of CA or CCA, respectively.

In addition, the porosity of samples was calculated using the following equation:

$$Porosity(\%) = 1 - \frac{\rho}{\rho_s}$$

Where ρ is the density of CA or CCA, ρ_s is the skeleton density of cellulose (1.5 g/cm³) or carbon (2.1 g/cm³).

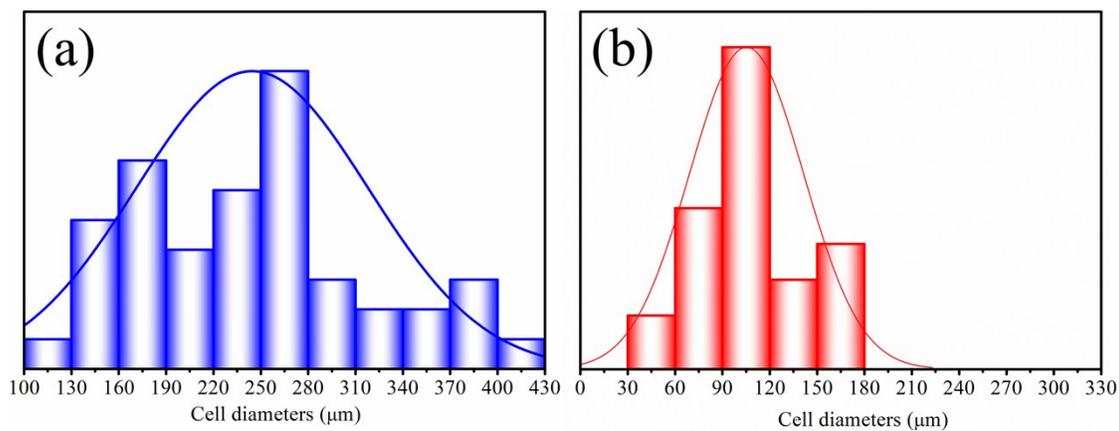


Fig. S1 The cell diameter distribution of (a) CA and (b) CCA640.

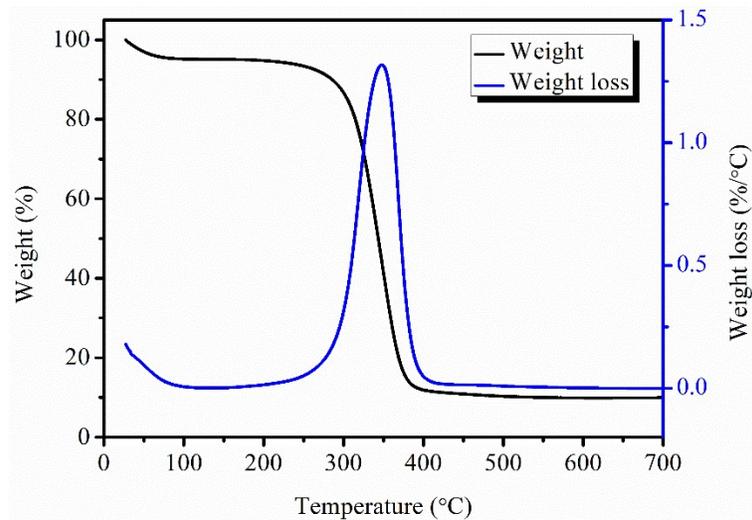


Fig. S2 TG and DTG curves of the cellulose aerogels graphitized under nitrogen atmosphere.

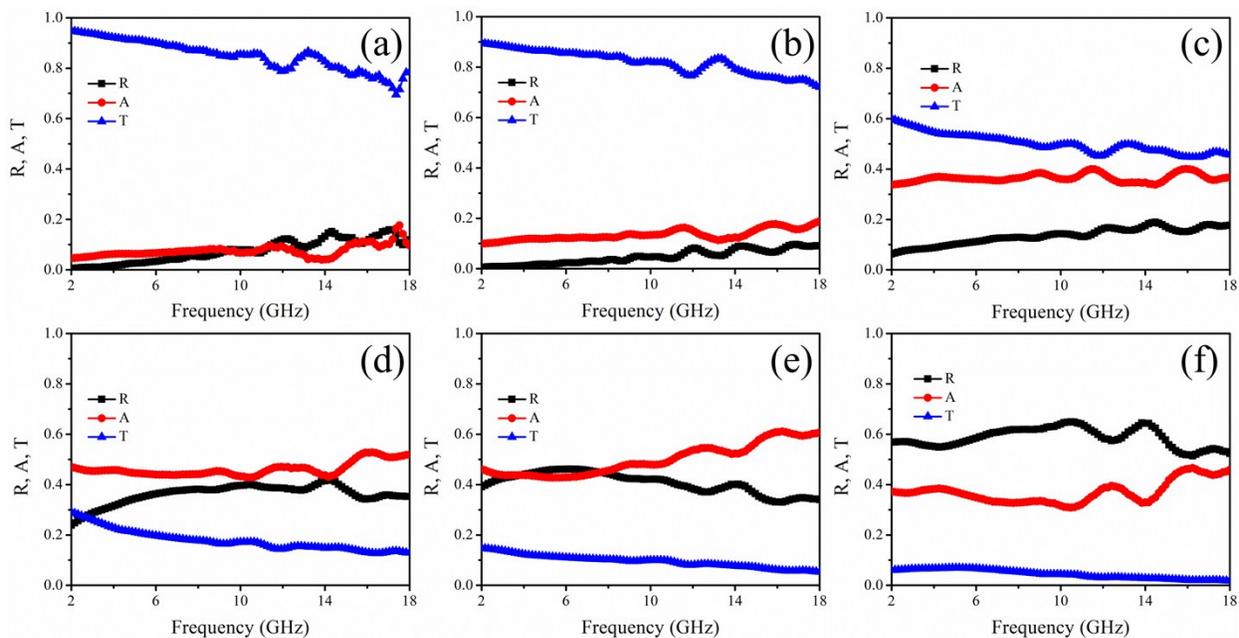


Fig. S3 The absorption (A), reflection (R) and transmission (T) coefficient of (a) CCA600, (b) CCA620, (c) CCA640, (d) CCA660, (e) CCA680, (f) CCA700.

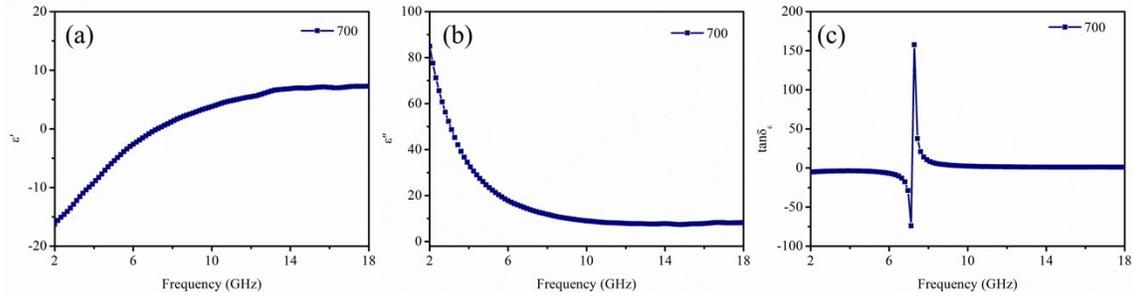


Fig. S4 (a, b) complex permittivity and (c) dielectric loss tangent of CCA700.

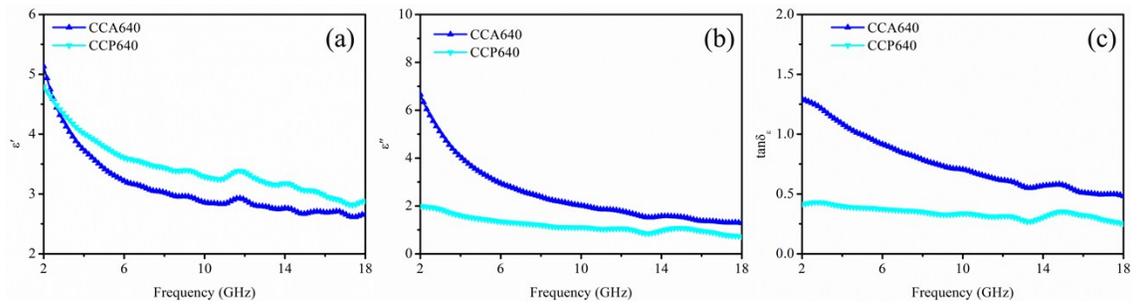


Fig. S5 Comparison of (a, b) complex permittivity and (c) dielectric loss tangent for CCA640 and CCP640.