Supplementary information for

Self-assembly of 3D porous architectures from energetic nanoparticles for enhanced energetic performances

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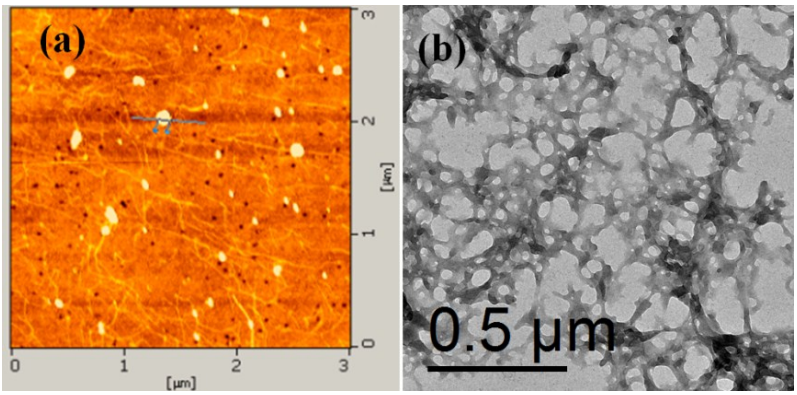
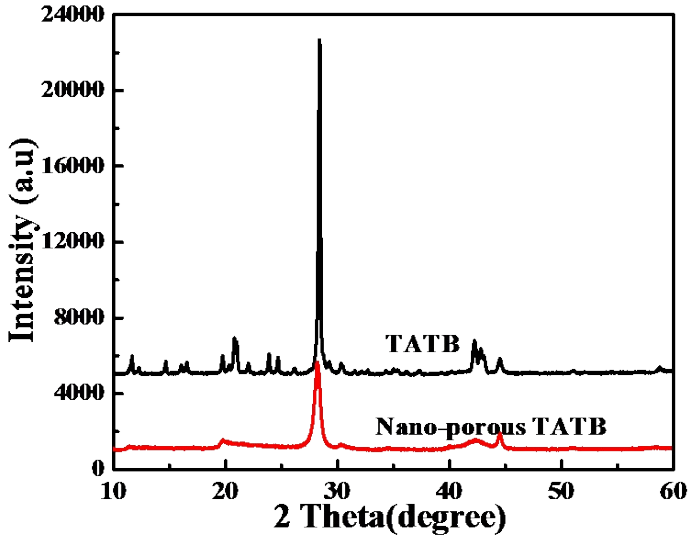
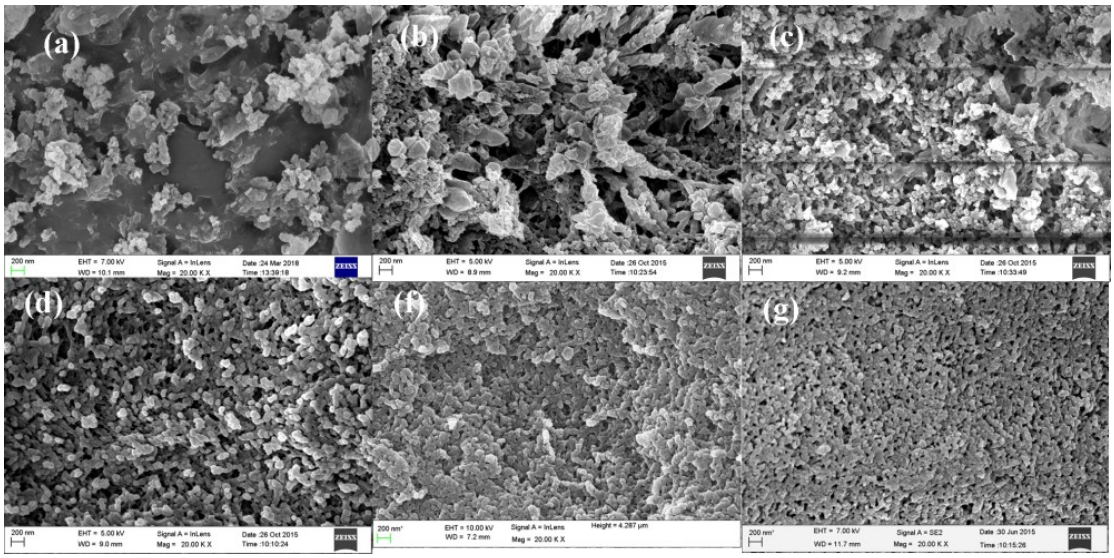


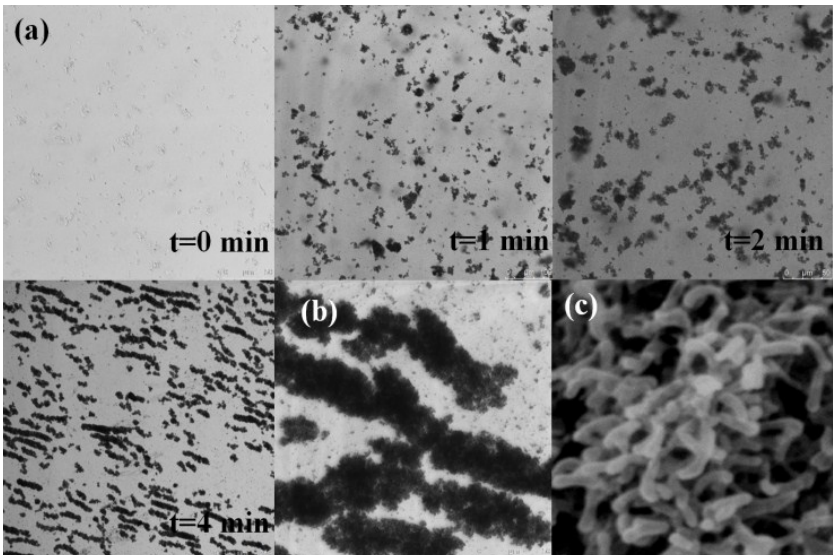
Supplementary Figure 1. (a) Atomic force microscope image of TATB nanoparticles. (b) Transmission electron microscope image of the TATB with 3D hierarchical porous architecture.



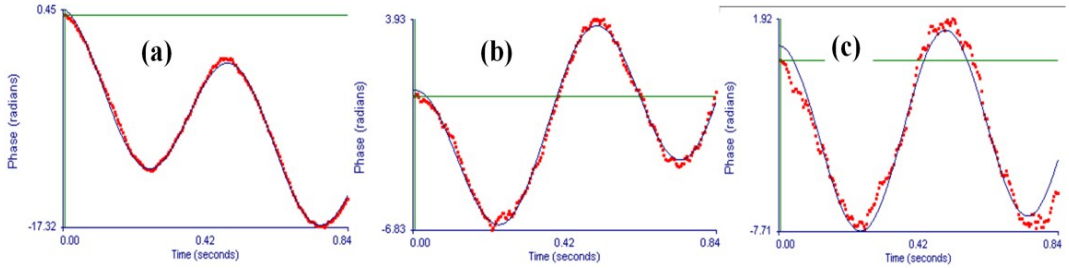
Supplementary Figure 2. X-ray diffraction patterns of raw TATB and TATB with 3D hierarchical porous architecture.



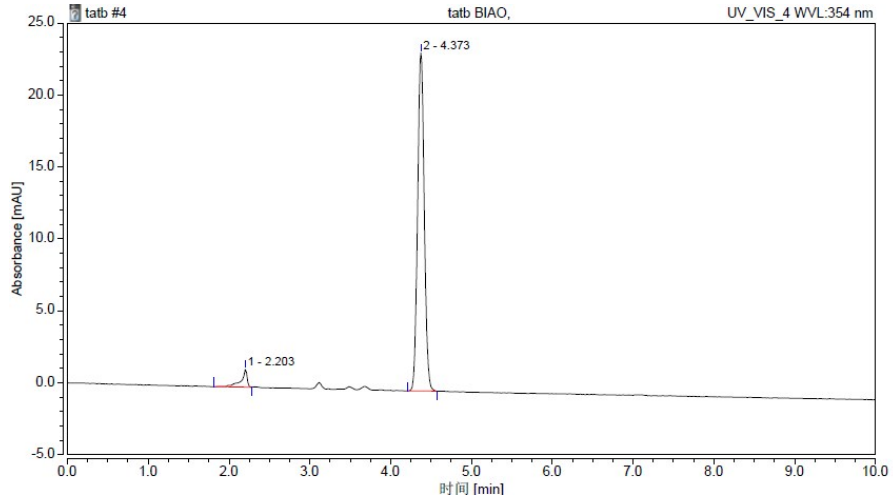
Supplementary Figure 3. FE-SEM images of 3D TATB porous architecture with different particle size and specific surface area.



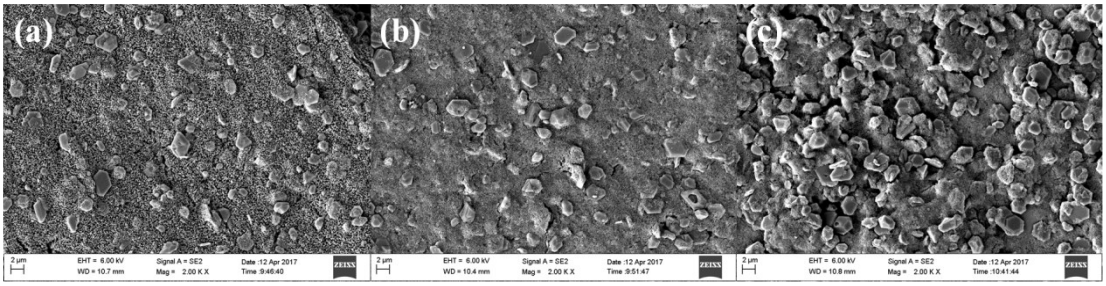
Supplementary Figure 4. (a)-(b) Self-assembly of TATB nano-particles into 3D TATB composed of TATB nanorods. (c) FE-SEM image of 3D TATB architectures with hierarchical pore network consisted of TATB nano-rods.



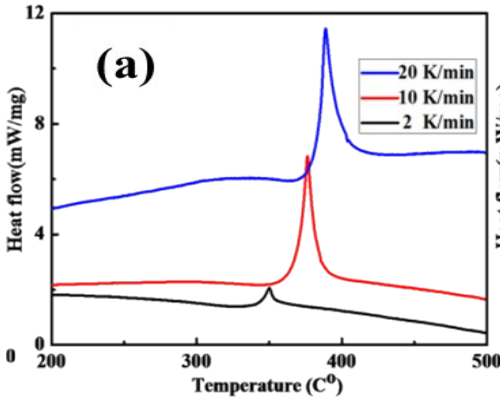
Supplementary Figure 5. Zeta potential curves in solution containing TATB nanoparticles and water. The value for the zeta potential was (a) -32 eV, (b) -24 eV, and (c) -19eV.



Supplementary Figure 6. trace amounts of TATB molecules dissolved in water and solvent.



Supplementary Figure 7. Growth of nano-TATB to form micro-TATB by micro-crystallization in water at 0 °C.



Supplementary Figure 8. Differential Scanning calorimeter curves of raw TATB

Supplementary Table 1. Specific surface area of porous nanostructure on different temperature

Temperature/ ^{o}C	0	-10	-20	-30	-40	-196 (liquid N_2)
Specific surface area/ m^2/g	7.3	13.6	23.6	26.7	28.3	36.5

Table 1 suggests that the specific surface area of TATB sample is increased with the decreasing of the freezing temperature.

Supplementary Table 2. Particle size, specific surface area and pore size of different energetic materials prepared by our method.

Sample	DAAF	DAAzF	LLM-105	LLM-105/TATB
Particle size (nm)	40-60	80-100	60-70	70-80
Surface area (m^2/g)	16.9	11.2	18.6	18.6