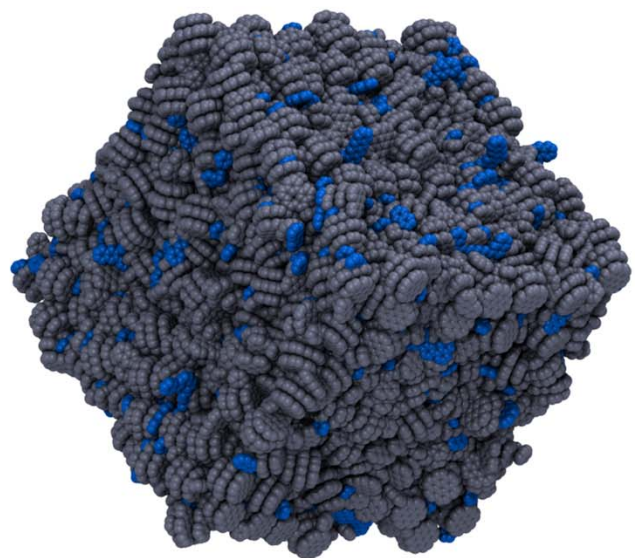


# Molecular Models of Experimentally Synthesized Composites



1000 K

$$r_c = 5 \text{ \AA}$$

$$\Phi_c = 0.9$$

$$\rho = 1.94 \text{ g/cm}^3$$

The composite materials are composed of graphitic nanocrystallites (gray) and amorphous carbon (blue).

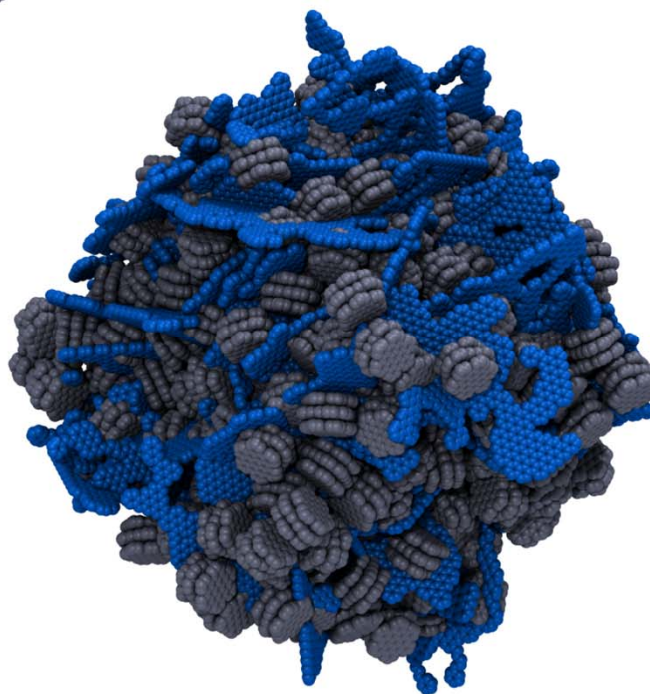
Pyrolysis temperature controls nanostructure.

1500 K

$$r_c = 7 \text{ \AA}$$

$$\Phi_c = 0.5$$

$$\rho = 1.51 \text{ g/cm}^3$$



2000 K

$$r_c = 17 \text{ \AA}$$

$$\Phi_c = 0.1$$

$$\rho = 1.38 \text{ g/cm}^3$$

These models capture experimental crystallite size, crystalline volume fraction and total density.