Carbon source dissociates in the gas phase into $C_n (n \geq 1)$ fragments.

(i) Carbon source interacts with catalyst surface.
(ii) Carbon source dissociates into fragments ($C_2, C_3, C_4$ etc.), entering the gas phase.
(iii) Fragments can adsorb back onto catalyst surface.
(iv) Growth via adsorbed $C_n (n \geq 1)$ fragments.
(v) Growth via dissolution of $C_1$ species.

**Figure 33.7** Proposed mechanism for CNT/F growth via carbon fragments. (i) Carbon source adsors onto the surface of the catalyst particle. (ii) Carbon source fragments on the catalyst and is released into the gas phase, or (iii) gas-phase fragments are readsorbed onto the catalyst surface. (iv) Growth of CNT/F from adsorbed carbon fragments. (v) Base growth mechanism as proposed by Baker [7]. Reprinted from Reference 7b. Copyright 2012, with permission from Elsevier.