38. The method according to any one of claims 32 to 37, wherein the gaseous source of carbon is selected from the group consisting of carbon monoxide, methane, methanol, ethanol, acetylene and mixtures thereof.

39. The method according to any one of claims 32 to 38, wherein the gaseous source of carbon comprises or consists essentially of carbon monoxide.

40. The method according to any one of claims 32 to 39, wherein the gaseous source of carbon is contacted with the catalyst at a pressure in the range from about 1 bar to about 10 bar.

41. The method according to any one of claims 32 to 40, wherein the gaseous source of carbon is contacted with the catalyst at a pressure of about 6 bar.

42. The method according to any one of claims 32 to 41, wherein at least 50 % of the single-walled carbon nanotubes formed have the chiral indices (9,8), (9,7), (10,6), and (10,9).

43. The method according to any one of claims 32 to 42, wherein at least 30 % of the single-walled carbon nanotubes formed have the chiral index (9,8).

44. The method according to any one of claims 32 to 43, wherein at least 40 % of the carbon nanotubes formed have the chiral index (9,8).

~~45. Single-walled carbon nanotubes formed by a method according to any one of claims 32 to 44.~~