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METHOD FOR BULK SEPARATION OF SINGLE-WALLED
TUBULAR FULLERENES BASED ON CHIRALITY

ABSTRACT

A method for bulk separation of single-walled tubular fullerenes (100)
5 based on chirality is provided wherein a first step is the formation of a template
(40) on a crystalline substrate (30). The template (40) has a plurality of openings
(32) which are oriented to energetically favor adsorption of a respective plurality
of single-walled fullerenes (100) having a tubular contour and a selected
chirality. Next, the template (40) is exposed to a suspension (16) of single-walled
10 tubular fullerenes (100) of random chiralities for adsorption of single-walled
tubular fullerenes (100) of the selected chirality into the openings (32) of
template (40). Then, the template (40) is removed from exposure to the
suspension (16) and the adsorbed single-walled tubular fullerenes (100) of the
selected chirality are removed from the template (40). The template (40) may
15 then be reused to adsorb further tubular fullerenes (100) of the selected chirality
from a suspension (16) of tubular fullerenes (100) of random chiralities.