

# Nanobioconjugates of *Candida antarctica* lipase B and single-walled carbon nanotubes in biodiesel production

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## Abstract:

Carboxylated single-walled carbon nanotubes (SWCNTCOOH) were used as support for covalent immobilization of *Candida antarctica* lipase B (CaL-B) using linkers with different lengths. The obtained nanostructured biocatalysts with low diffusional limitation were tested in batch mode in the ethanolysis of the sunflower oil. SWCNTCOOH-CaL-B proved to be a highly efficient and stable biocatalyst in acetonitrile (83.4 % conversion after 4 h at 35 °C, retaining >90% of original activity after 10 cycles).

## Keywords:

lipase B from *Candida antarctica*, single-walled carbon nanotubes, covalent immobilization, biodiesel production

