Inclusion compounds of ?- and ?-cyclodextrins with n-alkylamine (n= 12, 18)

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We report the synthesis of ?- and ?-ciclodextrin inclusion compounds with dodecylamine (DDA), and octadecylamine (ODA). Elemental analysis, 13C CP- MAS NMR spectroscopy, scanning electron microscopy (SEM) and powder X-ray diffraction analysis confirm the inclusion process. The basic host structure of the products is similar to that of typical cyclodextrin inclusion compounds. Depending on the guest's molecular length they could present two possible conformations. The extended linear (zig-zag) conformation occurs when the space periodicity along the prism axis, calculated from spacing of these crystallographic layer lines, is comparable to the predicted length of the guest (DDA guest). When the predicted lengths of the guest (ODA guest) are longer than the periodicity matrix layer lines, a helicoidal guest conformation is predicted.