



**Figure S5** Phylogenetic maximum likelihood analysis showing the affiliation of *Nitrospira nxrB* nucleotide sequences. The tree contains selected representatives from the genus *Nitrospira* and *Nitrospira* members detected in sediments of saline-alkaline lakes of the national park “Neusiedler See - Seewinkel”, Burgenland, Austria. Sequences obtained in this study are printed in bold. *Ca. Nitrospira alkalitolerans* is the organism cultured and analyzed in this study. The tree is based on the reference *nxB* phylogeny published by Pester et al. [25]. The scale bar indicates 9% estimated sequence divergence. Please note that *Nitrospira* lineage II is usually polyphyletic in *nxB*-based trees [25], whereas lineage II is monophyletic in 16S rRNA gene-based trees that were originally used to define the *Nitrospira* lineages I to VI [5] (see also Fig. 2 in the main text).