



Supplementary Figure S5. Laboratory bioturbation microcosm (a) from a mud flat (Merrow Island) from the Maine coast with abundant iron flocculent (black arrow) forming at the surface of *Glycera dibranchiata* (white arrow) burrows. Zetaproteobacterium strain CSS-1 from ZetaOTU14 growing on zero valent iron (b) under low oxygen conditions produces abundant clumps of stalks. Microscope image (c) of strain CSS-1 forming an iron oxide stalk stained with Syto13 showing a bean-shaped morphology.