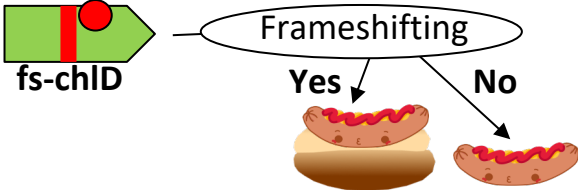
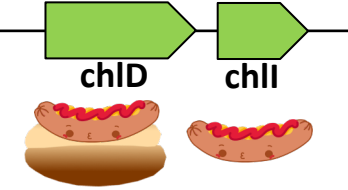
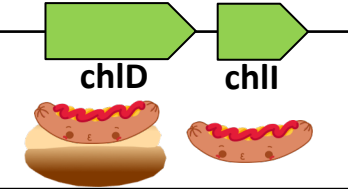

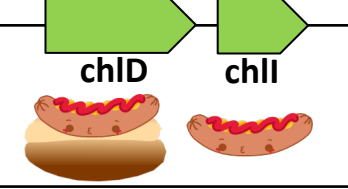

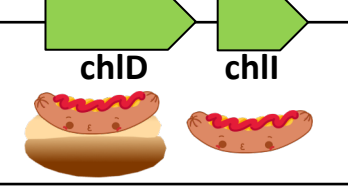
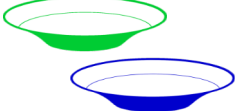
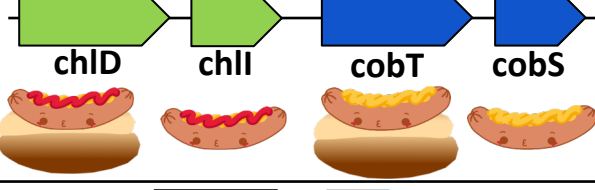
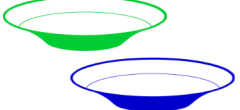
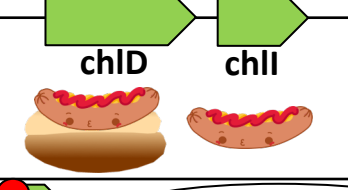

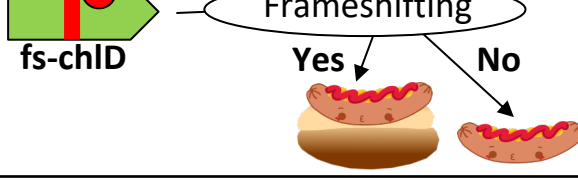



Stage	Example Species (phila)	Synthesis of the Medium and Small proteins	Function of the Medium and Small proteins	B12 pathway (anaerobic)	Large subunit (chIH/cobN)	CHL pathway	B12 pathway (aerobic)
1	<i>Spirochaeta thermophila</i> (Spirochaetes) <i>Brevefilum fermentans</i> (Chloroflexi)		Unknown	-	-	-	-
2	<i>Thermodesulfobacterium commune</i> (Thermodesulfobacteria) <i>Thermodesulfovibrio yellowstonii</i> (Nitrospirae)		Unknown	-	-	-	-
3	<i>Polynucleobacter duraquae</i> (Proteobacteria)		Mg-chelatase (small and medium subunits)	-	chIH 	Yes	-
4	<i>Halorhodospira halophila</i> (Proteobacteria) <i>Thiocystis violascens</i> (Proteobacteria)		Mg-(Co-?)chelatase (small and medium subunits)	Yes	chIH 	Yes	Yes?
5	<i>Synechococcus elongatus</i> (Cyanobacteria) <i>Prochlorococcus marinus</i> (Cyanobacteria)		Mg- and Co- chelatases (small and medium subunits)	Yes	chIH + cobN 	Yes	Yes
6	<i>Rhodospirillum rubrum</i> (Proteobacteria) <i>Dinoroseobacter shibae</i> (Proteobacteria) <i>Rhodovulum sulfidophilum</i> (Proteobacteria)		Mg- and Co- chelatases (small and medium subunits)	Yes	chIH + cobN 	Yes	Yes
7	<i>Mycobacterium tuberculosis</i> (Actinobacteria) <i>Prauserella marina</i> (Actinobacteria)		Small and medium subunits of Co- chelatases	Yes	cobN 	-	Yes
8	<i>Pseudomonas aeruginosa</i> (Proteobacteria) <i>Methanocaldococcus fervens</i> (Archaea)		Small and medium subunits of Co- chelatases	Yes	cobN 	-	Yes