

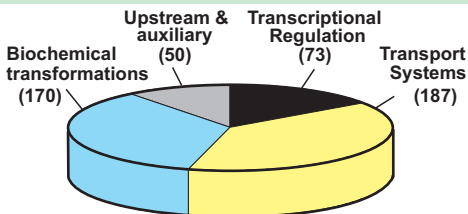
RAST

SEED

Annotated microbial
genomes (~700)

Sugar utilization
subsystems (35)

Collection of protein families involved
in sugar utilization pathways (480)

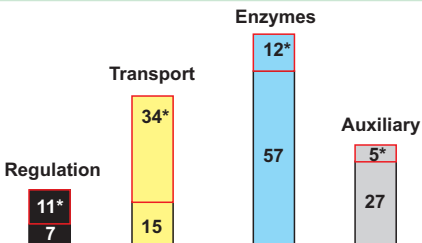


19 *Shewanella* genomes

Genome context analysis,
metabolic pathway reconstruction

**Genomic Encyclopedia of
Sugar Utilization in *Shewanella***

- 1,380 gene candidates in 19 genomes
- 170 protein families, among them:
- 62 novel functional assignments (marked by *)
- 17 sugar catabolic pathways + CCM



Experimental validation

- Individual genes (11)
- Growth phenotypes (18 sugars in 8 species)