Figure S1. Biovolume of dinoflagellates (diamonds) and diatoms (triangles) based on cell counts determined by flow cytometry and published per-cell volume estimates of 13,000 μm^3 per cell for *A. tamarense* and 30 μm^3 per cell for *T. pseudonana* (Hansen, 1989; Volkman et al., 1989). Mean value ± standard deviation for the triplicate cultures are shown.

Hansen PJ. (1989). The red tide dinoflagellate *Alexandrium tamarense*: Effects on behaviour and growth of a tintinnid ciliate. *Mar Ecol Progress Ser* **53:**105–116.

Volkman JK, Jeffrey SW, Nichols PD, Rogers GI, Garland CD. (1989). Fatty acid and lipid composition of 10 species of microalgae used in mariculture. *J Exp Mar Biol Ecol* **128**: 219–240.

Legend:
- Day 7, R1
- Day 7, R2
- Day 9, R1
- Day 9, R2
- Day 12, R1
- Day 12, R2
- Day 15, R1
- Day 15, R2
- Day 18, R1
- Day 18, R2
- Day 23, R1
- Day 23, R2
- Day 30, R1
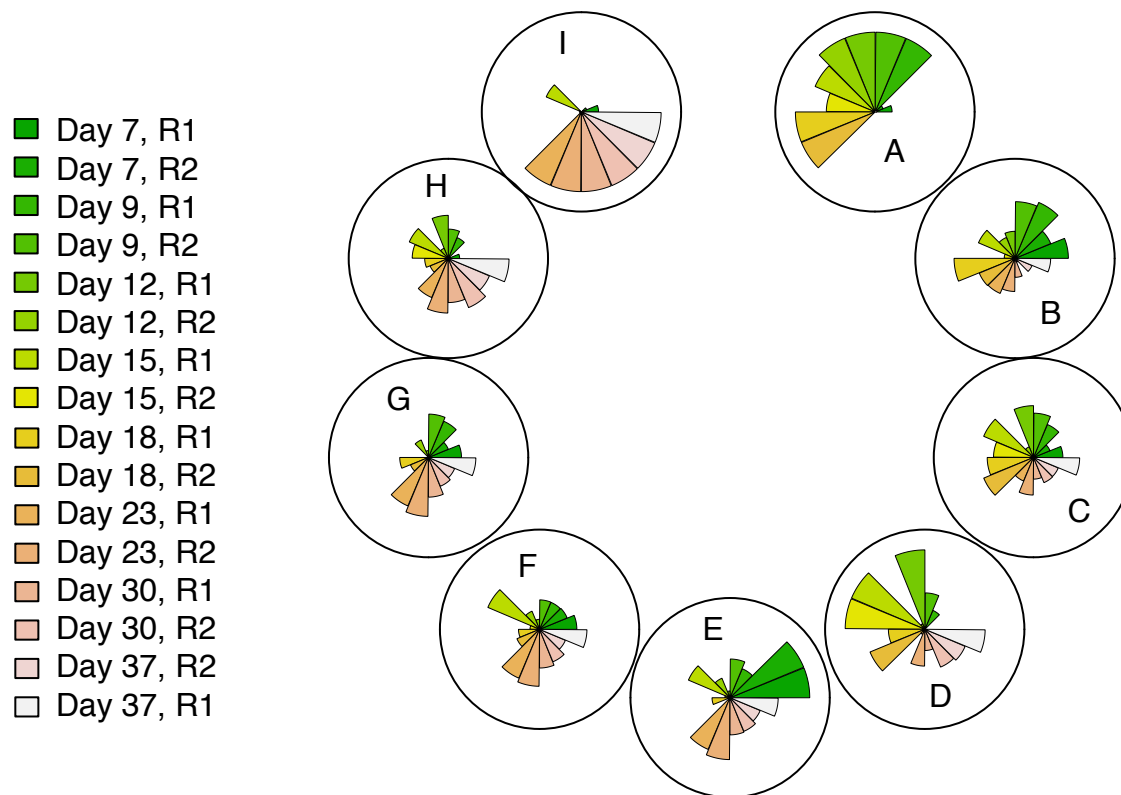- Day 30, R2
- Day 37, R2
- Day 37, R1

Figure S2. Nine gene expression clusters assembled by a self-organizing map algorithm. Wedge length corresponds to the average relative expression levels in each replicate cubitainer (R1 or R2) at eight time points.
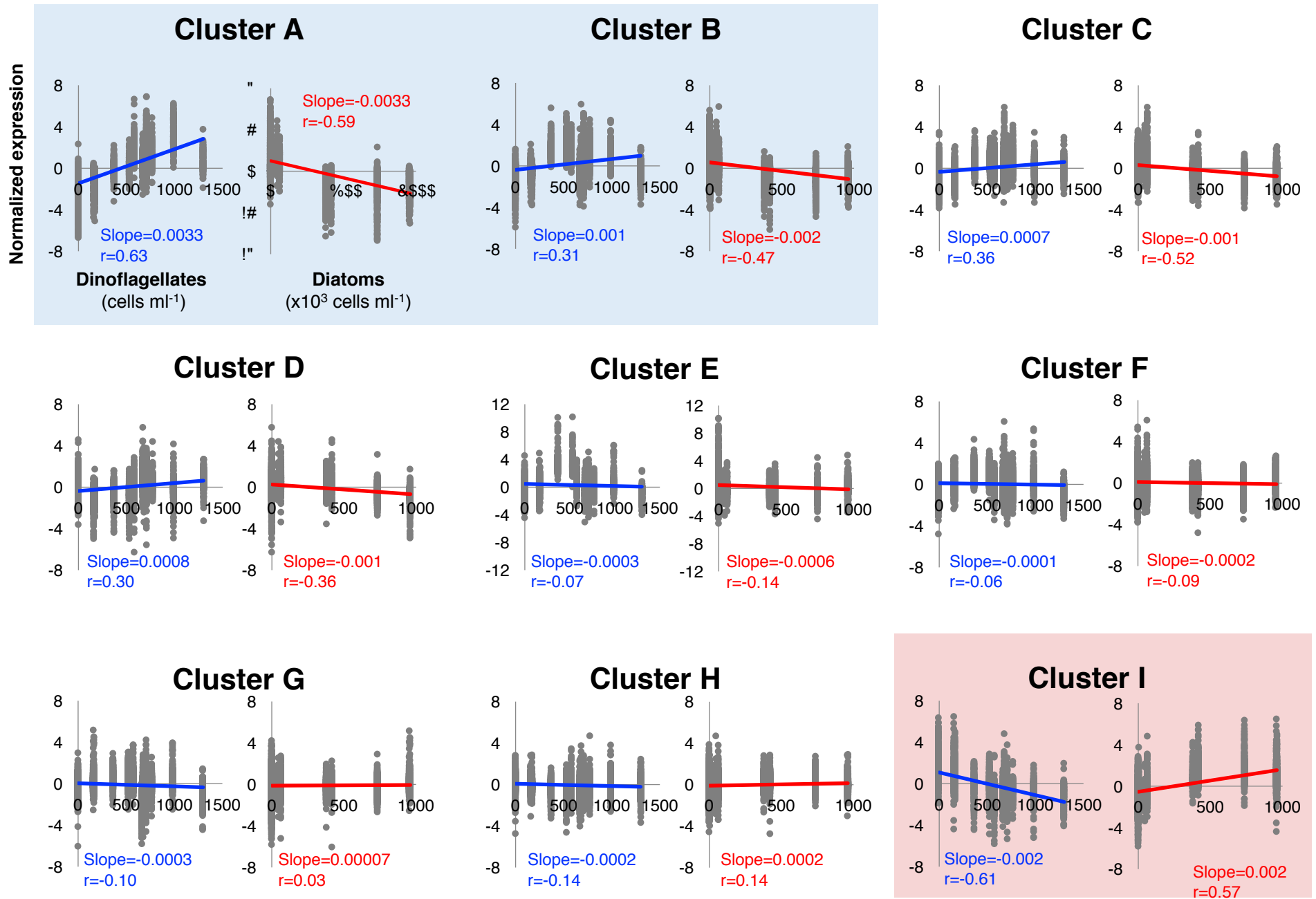
Figure S3. Normalized expression of genes within each cluster plotted as a function of dinoflagellate (left side of each panel) and diatom (right side of each panel).
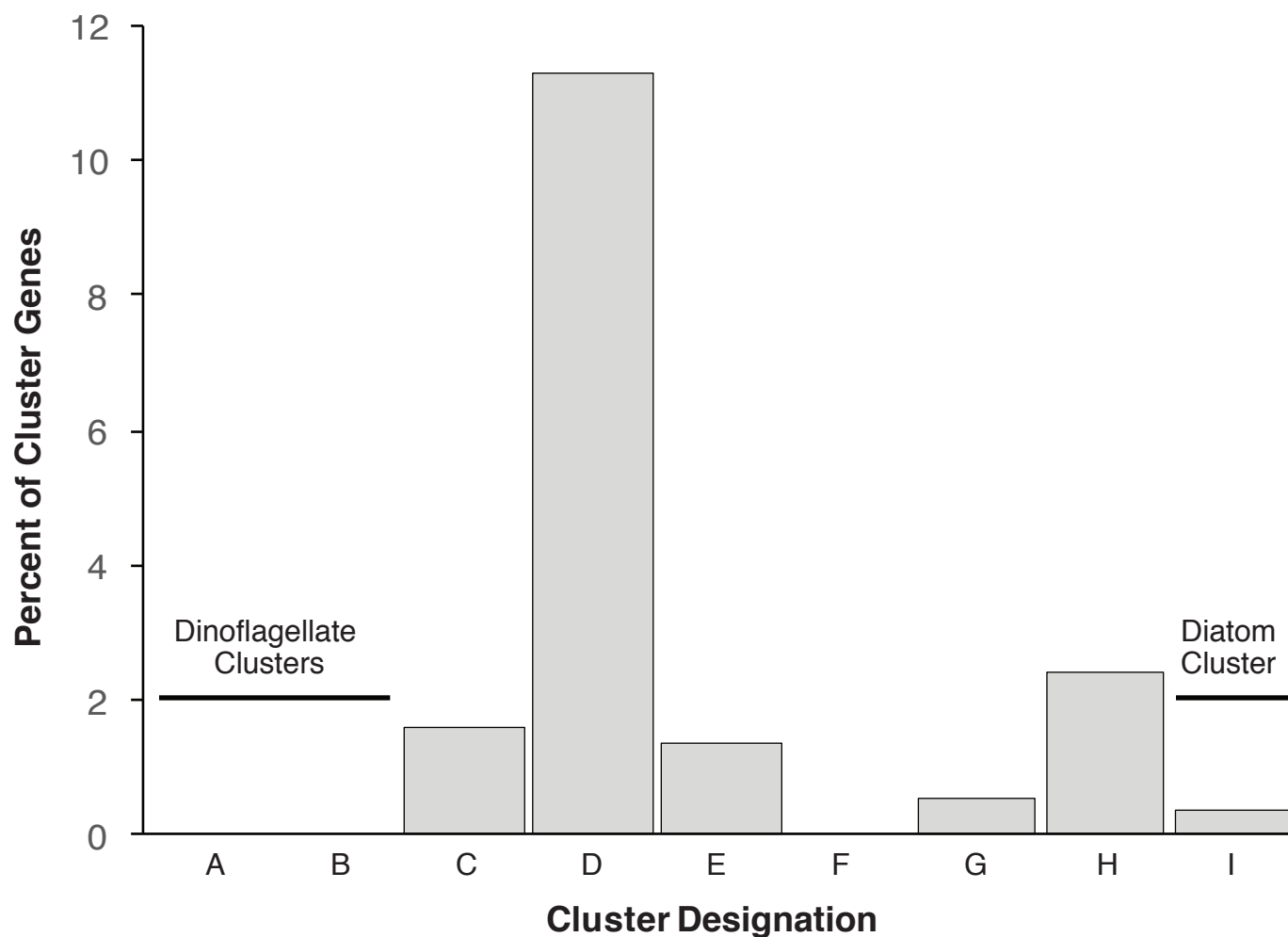
Figure S4. Distribution of 86 genes encoding intrinsic cellular processes within the nine clusters generated with a self-organizing map algorithm. Genes included in the analysis were *ligA, ftsA, ftsZ, grpE, dnaA, trpS, dnaE, hisS, proS, thrS, metG, miaA, frr, alaS, gyrA, gltX-2, serS, dnaB, rnc, lepB, rimM, trmD, leuS, rpoC, map, pth, priA, dnaX, mraW, secA, infB, rplB, rpsS, rpsQ, rplN, rplX, rpsN, rpsH, rplF, rplR, rpsE, rplO, rpsM, rplY, aspS, efp, rluD, trmU, rplM, rpoD, nusB, tsf, rpsB, cysS, rpsF, secD, tyrS, argS, infC, topA, ileS, ffh, rpsP, rplS, lspA, pnp, fusA, rpsL, rpoB, rplL, rplJ, pheS, rplT, rplW, rplD, rplC, rpsJ, rpsO, fmt, def-1, def-2, def-3, secY, ftsY, dnaG,* and *dnaK*.
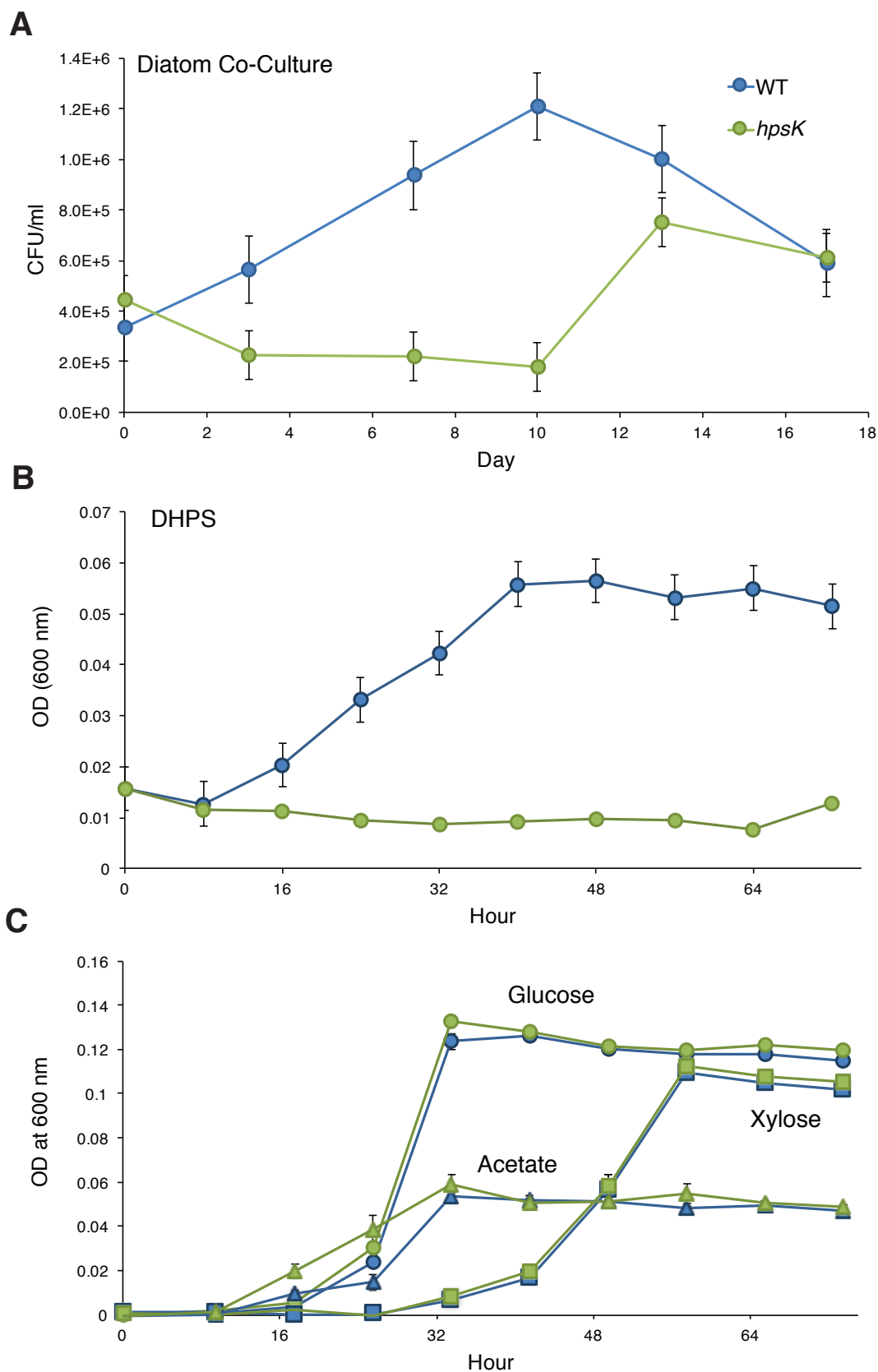
Figure S5. Growth curves for *R. pomeroyi* wild type (WT) and DHPS transporter mutant (Δ*hpsK,L,M*) in co-culture with *T. pseudonana* (A), and in F/2 medium amended with 5 mM DHPS (B) or 10 mM glucose, xylose, and acetate (C). Mean value ± standard deviation for triplicate incubations are shown.