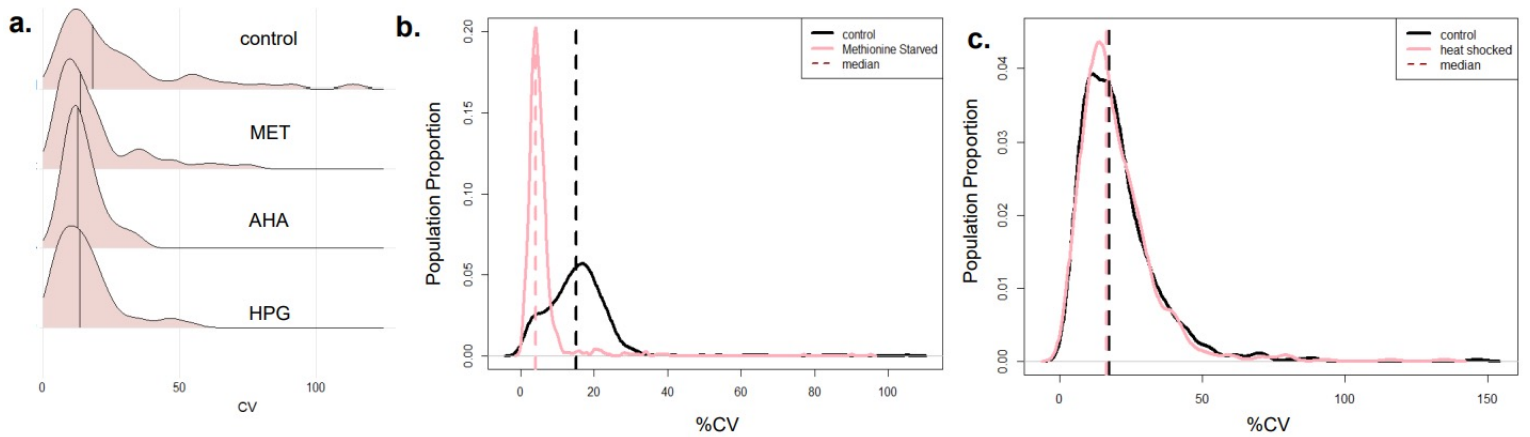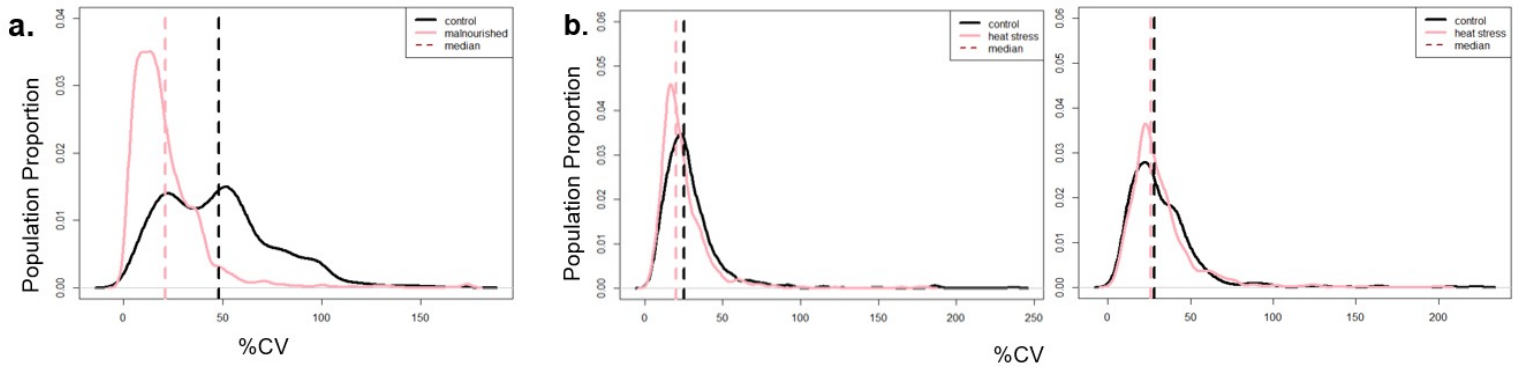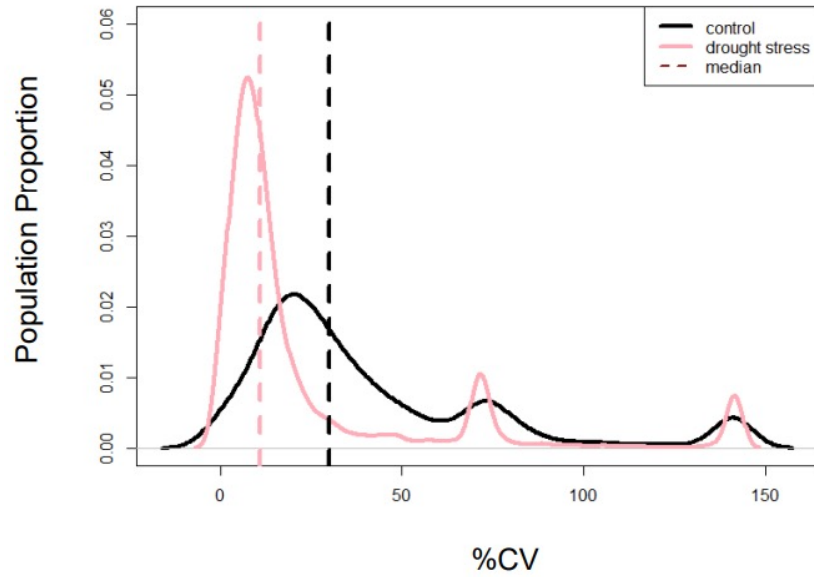# Figure S1

Supplementary Figure 1. a. Distribution plots of CV of NMR metabolite feature profiles for the non-canonical amino acid treated cultures of *E. coli.* **b**. CV profiles of metabolites in methionine dependent cancer cells with methionine (MET) or homocysteine (Hcy). **c.** CV profiles of metabolites from replicates of mayflies that were exposed to heat stress (pink) and the analogous control group (black).
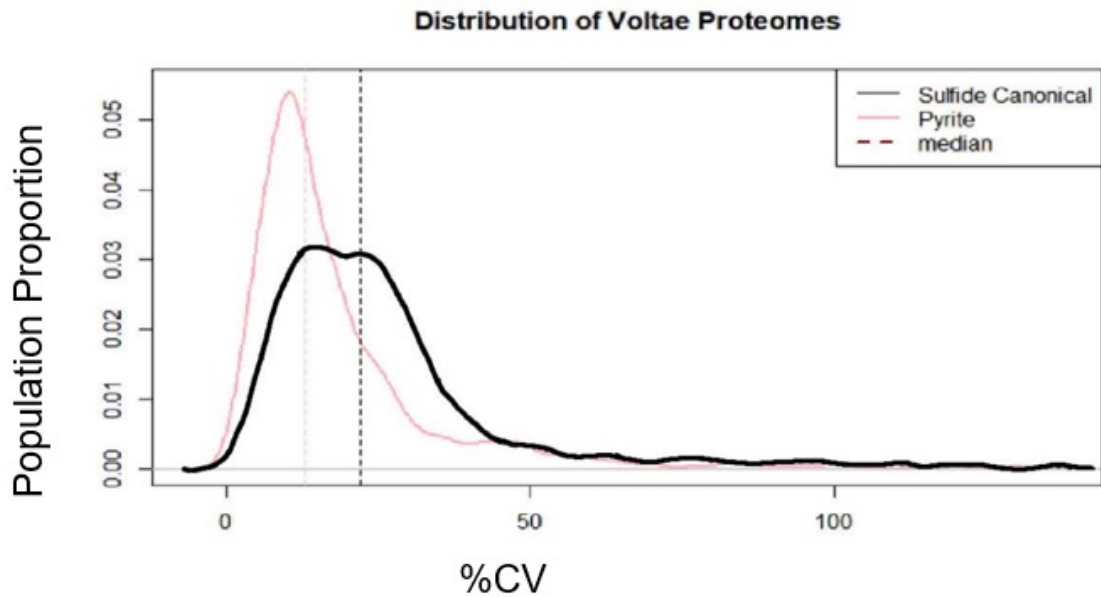
Figure S2

Supplementary Figure 2. Undernourished mouse model studies and Temperature Acclimated Abalone. **a.** Distribution plots of CV metabolite features from control mice (black) and malnourished mice (pink). **b.** Distribution plots of CV metabolite features from replicates of cold (left panel) or high temperature (right panel) acclimated *Haliotis discus hannai* that were exposed to heat stress (pink) and the analogous control group (black).
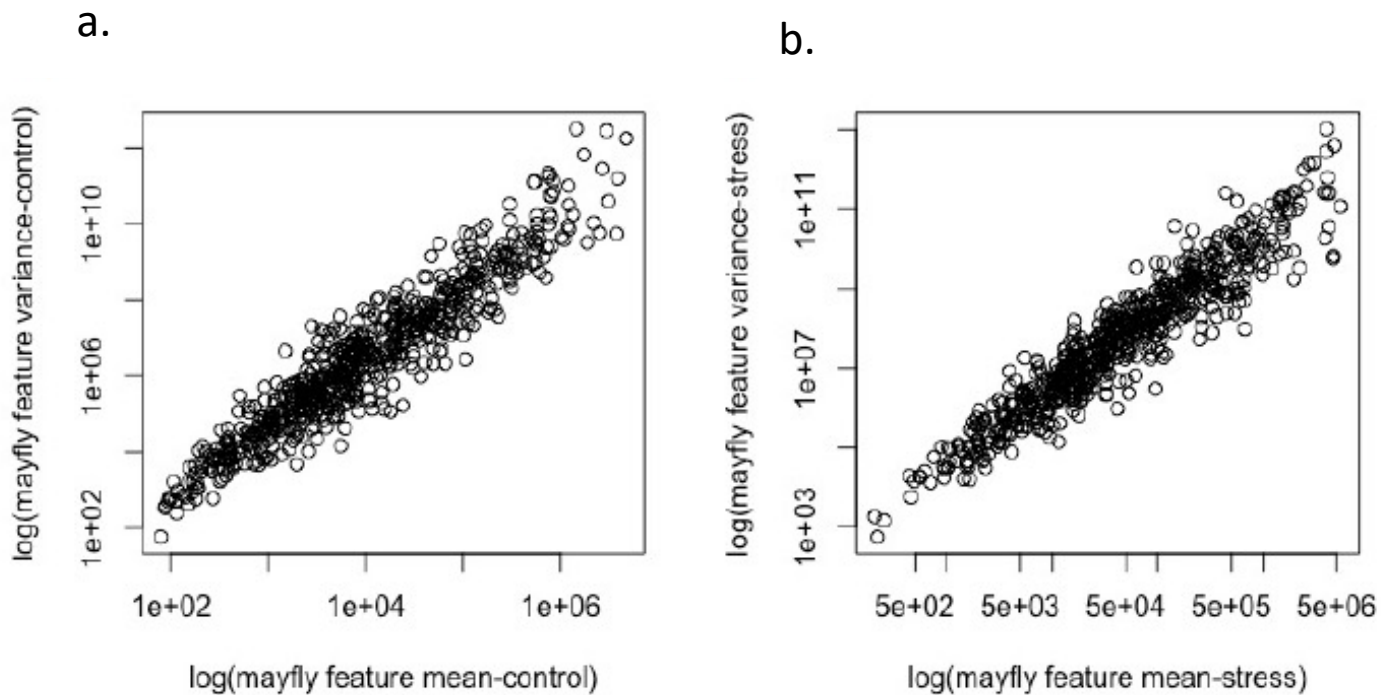
Figure S3

Supplemental Figure 3. Distribution profile plots of proteomic data collected on wheatleaf (black) and wheatleaf that has been exposed to drought stress using PEG (pink).

Figure S4

Supplemental Figure 4. Distribution profile plots of proteomic data collected on M. voltae grown under canonical sulfide (Fe(II)/HS$^-$)(black) and M. voltae that has been exposed to mineral stress through growth on pyrite (FeS$_2$)(pink). Mean from 25.8% to 18.5%
Median (shown) from 21.5% to 13.2%

Figure S5

a.

b.

Supplemental Figure 5. Relationship between feature mean and variance for control replicates from the mayfly data (a) and the heat stressed mayfly replicates (b).