Biomass Calculations

Use HOT-DOGS to find the following values for surface waters of Station ALOHA:
1. Total particulate carbon concentration (molar):
2. Total dissolved organic carbon (molar):
3. Chlorophyll a concentration (g per l):
4. Prochlorococcus (cells per l):
5. Total prokaryotes (cells/L):
6. Total viruses (viruses per L):

Now let’s try to figure out how the amount of carbon in microorganisms (total phytoplankton, Prochlorococcus, non-photosynthetic prokaryotes, and viruses) compares to the total DOC and POC pools.

Some additional numbers you might need:
7. C:chl ratio of a phytoplankton cell:
8. Carbon content of Prochlorococcus (g per cell):
9. Carbon content of a heterotrophic bacterium (g per cell):
10. Carbon content of a virus:
11. Mass of carbon in a sugar cube
Total Phyto C as a % of POC

Total *Prochlorococcus* C as a % of POC

Total prokaryotes at Station ALOHA as a % of POC

Viruses at Station ALOHA as a % of POC

If all of the DOC in seawater were in the form of sucrose, what volume of seawater would you require to have enough to make one sugar cube?