

T-61.6070 SPECIAL COURSE IN BIOINFORMATICS I
EXERCISES 10.04.2008

1. Explain shortly the principles (phases) of shotgun proteomics
2. What are the 4 steps of SEQUEST algorithm?
3. An experimental spectra, and 3 theoretical spectras from different peptides found from protein database (peptide1, peptide2 and peptide3) are represented in Figure 1. Calculate cross-correlation functions and final scores for the 3 theoretical peptide spectras compared to the experimental spectra. Which theoretical spectra corresponds experimental spectra?

The spectras in matlab format can be found on

http://users.tkk.fi/~jiniemi/proteomics/ms_spectras.mat (y corresponds experimental spectra and x three theoretical spectras). Experimental spectra is already reprocessed.

HINT: Matlab function **xcorr** may be useful.

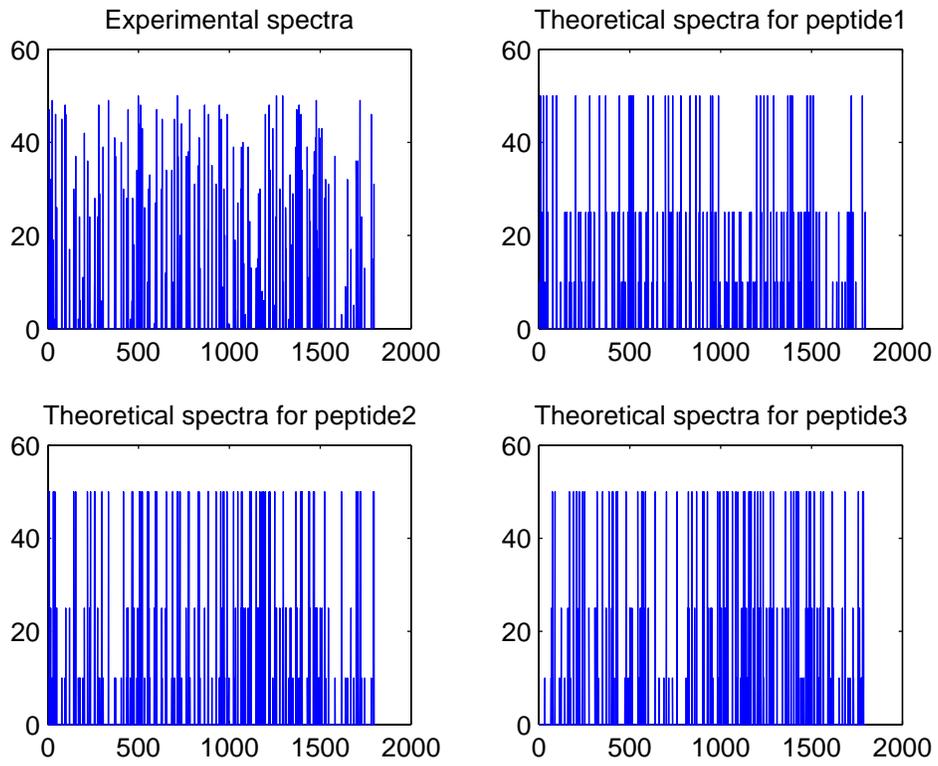


Figure 1