The Protein Primer –V olume 2
Volume 1 includes topics accumulated between 1990 and 2000 but is not inclusive since some of the most interesting items have been reported in conventional journals notablty Biophysical Chemistry as parts of festschrifs for John Schellman and Walter Kauzmann. Some versions of the latter and additional old and new material are given in the Utilities folder on this the Protein Primer web site (http://www.chem.umn.edu/groups/lumry)

Chapter topics for volume 2

1. Errors and misconceptions in protein research.
2. Fundamentals (Benzinger correction, water two state, compensation theory and practice0
3. Dependence of B factors on temperature and physiological function.
4. Aqueous mixtures: A. Magic mole fractions, B Hofmeister series and protein hydration
5. How enzymes work-the nutcracker mechanism
6. Linear response theory and mean-field potentials in biology
7 Similar features found in knot B-factor palindromes-evolution bases on free volume not sequence
8 Convergent evolution –all enzymes use the nutcracker mechanism
9. Basis of folded stability-knots or hydration or both.
10. Maintaining stability and function in extremophiles (Dr. C-H. Chen)
11. Classes or proteins- strong and fragile free-energy surfaces.
12. Deviations from thermodynamics found in biology-no free energy dominance, irreversibility
11. Formal enzyme kinetics-steady state but not equilibrium.
14. The role of imagination in science.