Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

On the Melting Transition of RNA DAVID SCHWAB, Deparment of Physics, UCLA, ROBIJN BRUINSMA, Deparment of Physics, UCLA — The secondary structure of RNA can undergo a phase transition from a designed native state to a branched molten-globule. This melting transition is continuous, neglecting excluded volume. We study the effect of excluded volume interactions in good solvent on the melting transition. First, we calculate the effect of a constant external tension on the melting transition in the ideal polymer case and then, in the context of Flory theory, equate the tension with what would be generated by excluded volume. We find that, with excluded volume, the continuous melting transition is still second order but with a different exponent.

David Schwab
Deparment of Physics, UCLA

Date submitted: 30 Nov 2005 Electronic form version 1.4