1020-60-79 Alexander Y Grosberg* (grosb001@umn.edu), Department of Physics, University of Minnesota, 116 Church Street SE, Minneapolis, MN 55455. A few more puzzles surrounding random knots.

The probabilitities of random knots were studied for a long time. We here show that the characteristic length scale associated with random knotting might be very large and, even more surprising, it exhibits no sign of any singularity when loop gyration radius or even loop controur length diverge. Applications of these results to DNA and proteins are also discussed. (Received August 15, 2006)