Supplementary Material. We have uploaded to the journal's submission web site and have made available, at <a href="http://www.chem.lsa.umich.edu/chem-it/Groups/Andricioaei/downloads.html">http://www.chem.lsa.umich.edu/chem-it/Groups/Andricioaei/downloads.html</a>, two movies (movie1 is relax\_pos.avi(mpg), and movie2 is relax\_neg.avi(mpg) illustrating the simulations of the relaxation of positive and negative supercoils, respectively.