1086-55-798   **Jennifer Lazarus***, 7300 Houston School Rd, Dallas, TX 75241, and **Noureen Khan**. *Tangle Solutions for Site-Specific Hin Recombinase on DNA.*

The tangle model was developed by Ernst and Sumners, to analyze enzymatic reactions on DNA [2]. Recombinases act on DNA by changing crossover sites by inverted repeats or direct repeats [3]. Previously, the tangle model was created to describe the processive recombination of enzymes with DNA; which produced four-plats as products. Results from biological observations and topological analysis aid in adjusting the tangle model to handle the tangle equations of distributive recombination; which produces composite knots as some products [1]. Hin recombinase acts on DNA by both processive and distributive recombination. We explore the adjustment of the tangle model to distributive recombination using Hin recombinase. Keywords: DNA, Tangle model, Four-plats, Recombinase, Hin recombinase References [1] D. Buck and M. Mauricio, Tangle solutions for composite knots: application to Hin recombination, arXiv: 1007.0948v1 [math.GT], 1-17, 2010 [2] C. Ernst, D.W. Sumners, A calculus for rational tangles: applications to DNA recombination, Math. Proc. Camb. Phil. Soc., 108, 409, 1990 [3] M. Vazquez and D.W. Summner; Tangle analysis of Gin site-specific recombination, Math. Proc. Camb. Phil. Soc., 136, 2004 (Received September 12, 2012)