1078-57-193 **Koya Shimokawa*** (kshimoka@rimath.saitama-u.ac.jp). *On shortest pathways of unlinking by XerCD-diff-FtsK.*

In 2007, Grainge et al. showed that, when coupled with FtsK, the site-specific recombinases XerC/XerD can unlink DNA catenanes and proposed a stepwise model of unlinking. In the previous work, we showed that their model is the only pathway from the 2m-cat to the unlink when we assume each recombination event reduces the crossing number. Here we characterize shortest pathways from the 6-cat to the unlink under the assumption that the crossing number does not increase at each event. (Received December 07, 2011)