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Random two component links have been used as mathematical models for the entanglement of long polymers such as DNA. In many of these models, authors have studied the probability of linking or the mean linking number. In a paper in 2014, Even-Zohar, Hass, Linial, and Nowik introduced the Petaluma model, a random model for knots and links based on the petal diagrams of Adams, et al, in which they were able to produce more refined information in the asymptotic distribution of linking numbers as the number of petals increased. We introduce a random spatial graph model similar to the Petaluma model based on book embeddings of graph, and we show that the linking numbers of a subset of the links in the model follow a known distribution. (Received September 19, 2021)