Cooperative sequential adsorption model with evaporation on Cayley tress[1] WILLIAM BANKS, ERIC SCHWEN, ANDREW SEREDINSKI, BRIAN SIMPSON, VINCENT KIM, CONAN ZHAO, Washington and Lee University — We present analytical results for a cooperative sequential adsorption model with evaporation on Cayley trees of coordination number three and four. This model can be applied to a variety of physical situations, such as ionic self-assembly of nanoparticles, or epidemic and voting problems. We first map our model onto an Ising model and use known results to characterize the steady state of the system. We derive the rate equations for the particle density and solve them numerically in the mean field approximation. We also discuss the role of the particle correlations and their relationship to external factors.

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