

Abstract Submitted
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**Single-chain conformation and dynamics in connected chambers:
Theory and simulation of translocation and threading** ERICA SALTZMAN,
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Massachusetts at Amherst — Confinement in a series of small chambers connected
by narrow pores may be viewed as a model system for translocation in the absence
of an applied force, as well as for more general instances of spatially heterogeneous
confinement relevant to biological and materials applications. Brownian dynamics
simulations are performed for single chains equilibrated in this system, and a theoret-
ical treatment is developed. Short chains undergo translocation between chambers,
while long chains thread several chambers and diffuse more rapidly. Measures of
chain size and mobility are analyzed and compared.

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