

Abstract Submitted  
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**Exploring the Space of Coarse-Grained Models**<sup>1</sup> THOMAS FOLEY,  
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ing, WILLIAM NOID, Penn State Chemistry — Using the exactly renormalizable  
Gaussian network model, we extend upon a previous study which explored the im-  
pact of resolution upon information and entropy in coarse-grained models. In this  
work, we exploit an intuitive decomposition of the coarse-grained Potential of Mean  
Force (PMF) under a given mapping into entropic and energetic terms. Focusing  
on the entropic term as a measure of information loss, we explore the space of all  
mappings using Monte Carlo simulations in order to characterize the structure and  
features of this space. Applying a statistical mechanical analysis to this system  
yields valuable insight into the "mapping problem" of coarse-grained modeling.

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