

# 특정 계열 화학 반응 네트워크에서의 확률적 튜링 패턴 부재와 잡음 강건성

## Noise-Robust Absence of Stochastic Turing Patterns in a Class of Chemical Reaction Networks

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### 요약

Biochemical systems are often represented graphically as reaction networks. In the study of these networks, a key focus is the relationship between their structural properties and their dynamic behavior. In this work, we explore reaction-diffusion system where the reaction terms are governed by reaction networks with specific structural conditions. We show that for such networks, Turing instability cannot occur, regardless of the chosen reaction rates or diffusion coefficients. Beyond the deterministic setting, these structural conditions are noise robust. The conclusion persists under small, time-only Gaussian noise.