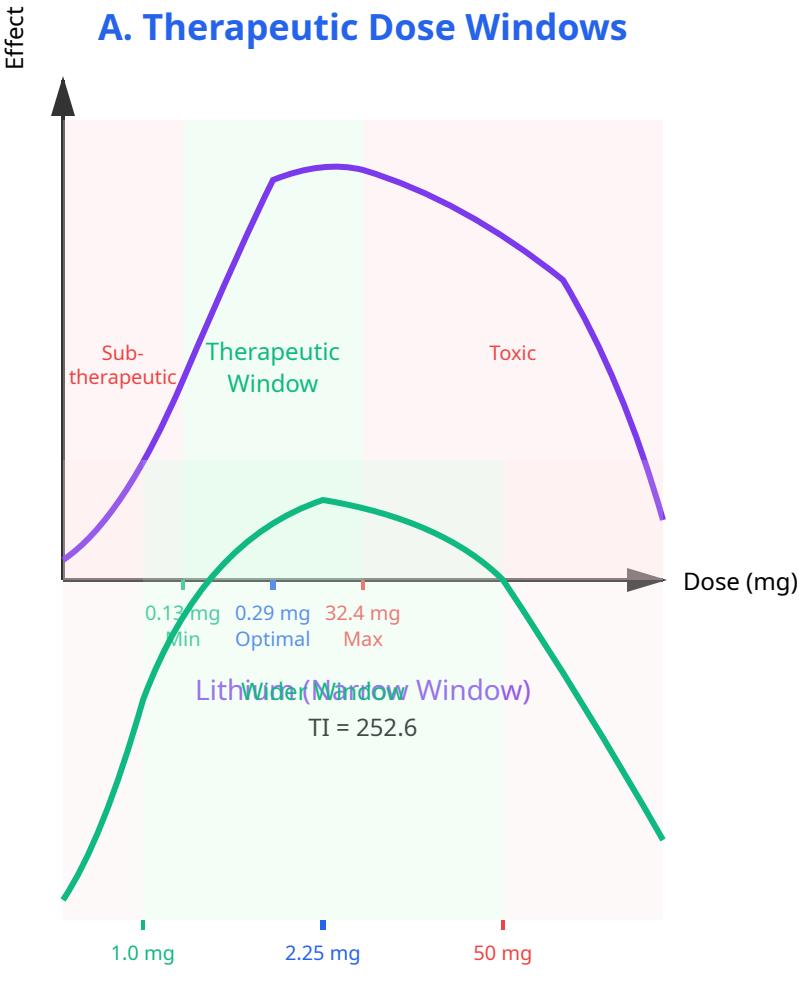
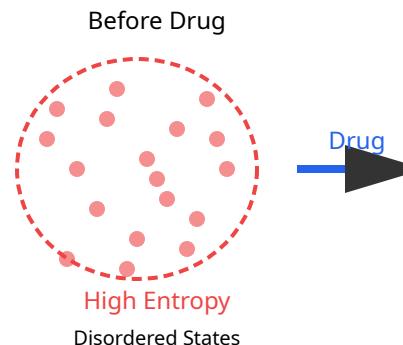


Therapeutic Windows and Categorical State Space Reduction

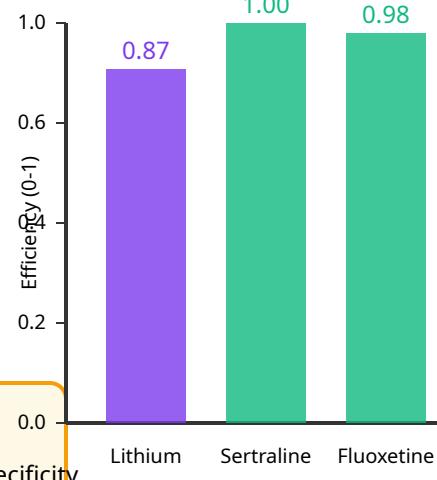


B. Categorical State Space Reduction



State Space Reduction Metrics			
Drug	Reduction	Phase Coherence	Specificity
Lithium	0.301	0.369	0.910
Sertraline	0.600	0.912	0.990

C. Programming Efficiency



Information Transfer
Lithium: 500 bits/s
SSRIs: 600-610 bits/s

Computational Validation Summary

Therapeutic Windows: Lithium exhibits narrow window ($TI=252.6$, 0.13-32.4 mg) requiring precise dosing, while SSRIs show wider windows ($TI=2631.6$, 1.0-50 mg) enabling safer titration.

State Space Reduction: Drugs compress categorical state space by 0.30-0.60 ratio within therapeutic window, increasing phase coherence (0.37-0.91) and programming specificity (0.91-0.99) with efficiency 0.87-1.00.