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Identification and development of benzoxazole derivatives as novel bacterial glutamate racemase inhibitors

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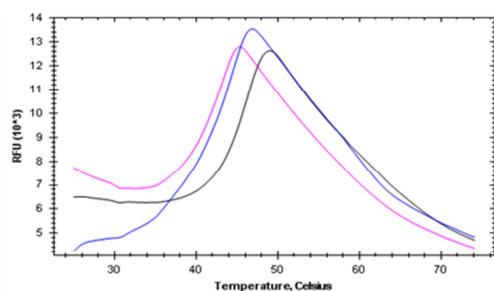
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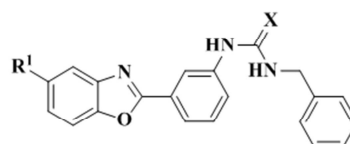
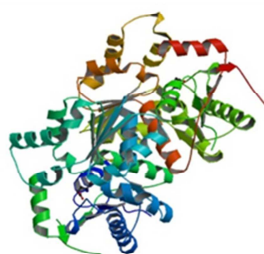
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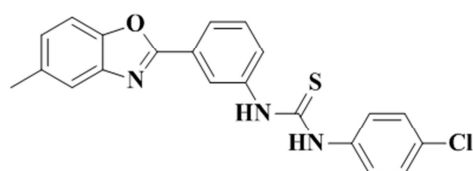
Fluorescent thermal shift assay (FTS) and enzyme screening of in house library



Lead 1

ΔT_m 3.2 °C , IC_{50} 20.7±0.29 μ M

Lead identification



Compound 22

ΔT_m 6.1 °C , IC_{50} 1.1 ± 0.52 μ M

MIC = 8.72 μ M

Nutrient starvation = 2.5 log

Biofilm = 2.4 log

Zebra fish model = 3.4 log

Synthetic chemistry approach- lead expansion

We identified lead compound for *M. tuberculosis* glutamate racemase by thermal shift assay. We further synthesize further compounds and tested against various model of *M. tuberculosis* together with docking studies.

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