

Physical determinants of amyloid aggregation

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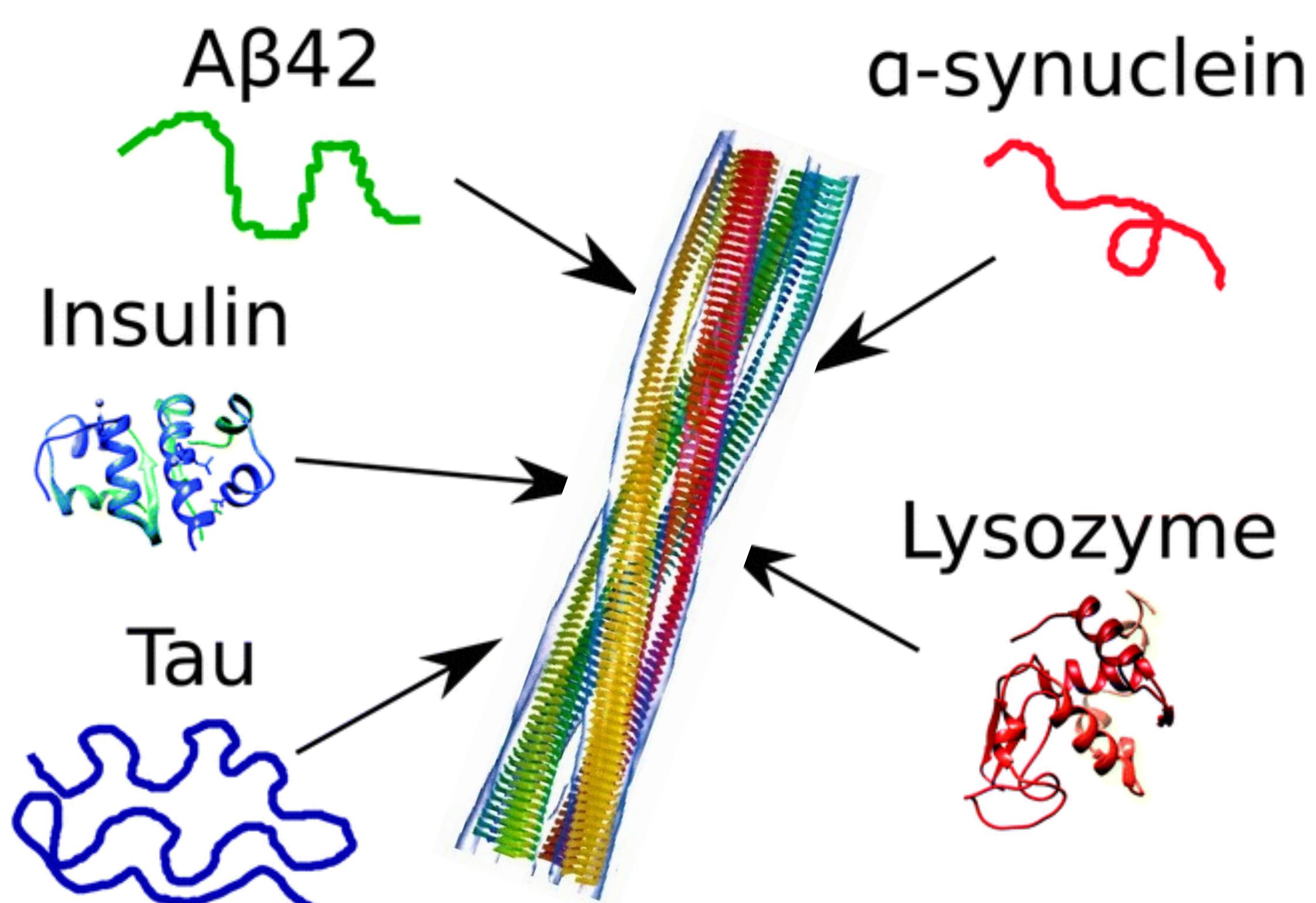
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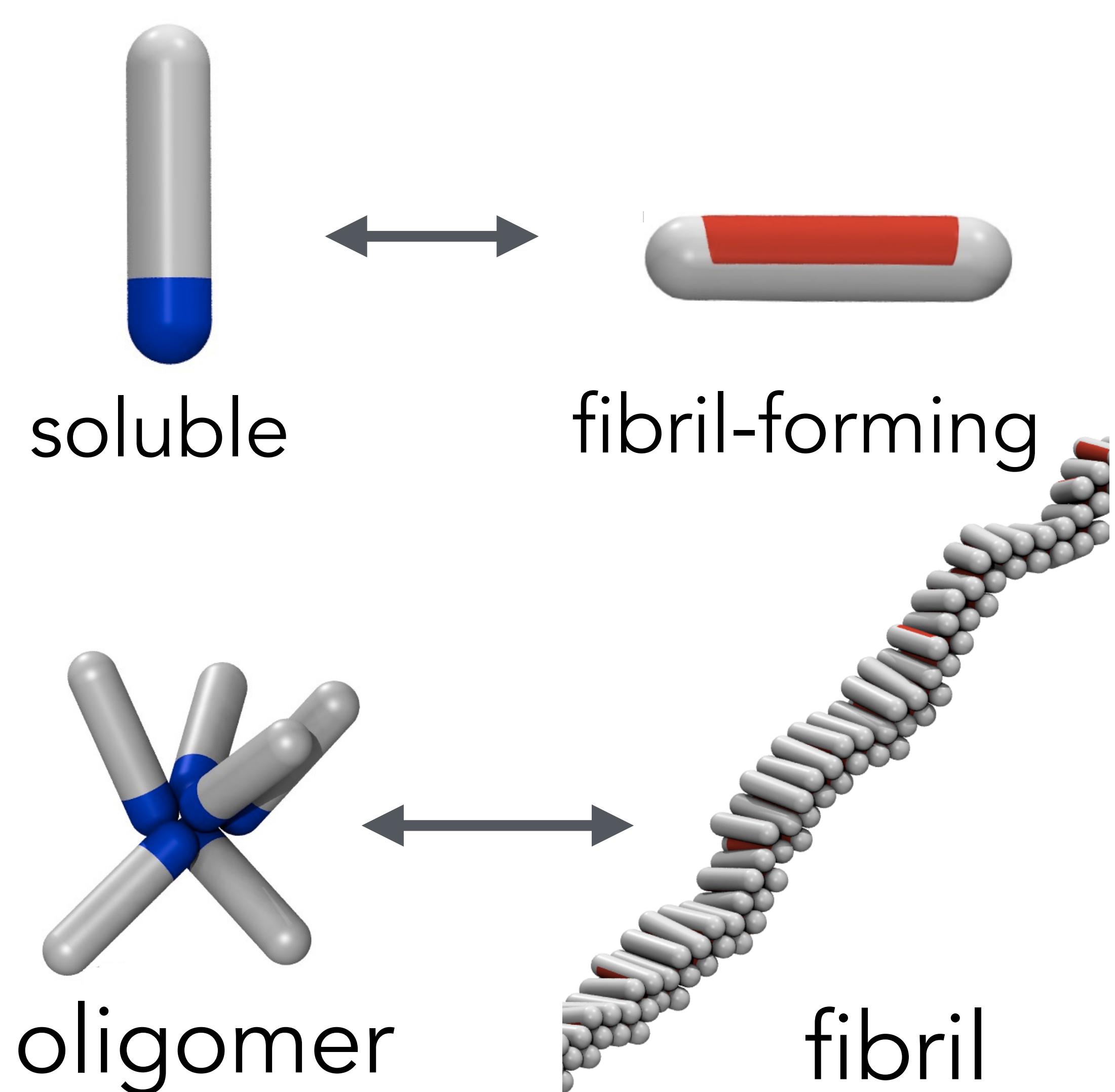
In short

- Amyloid: protein fibrils enriched in β -sheet, implicated in many diseases
- Prefibrillar **oligomers**, rather than fibrils, are main cytotoxic agents in amyloid-related diseases (Alzheimer's, Parkinson's)
- Oligomers serve as fibril nucleation centres
- Fibril **self-replication** is governed solely by protein **adsorption** onto the surface of their fibrils

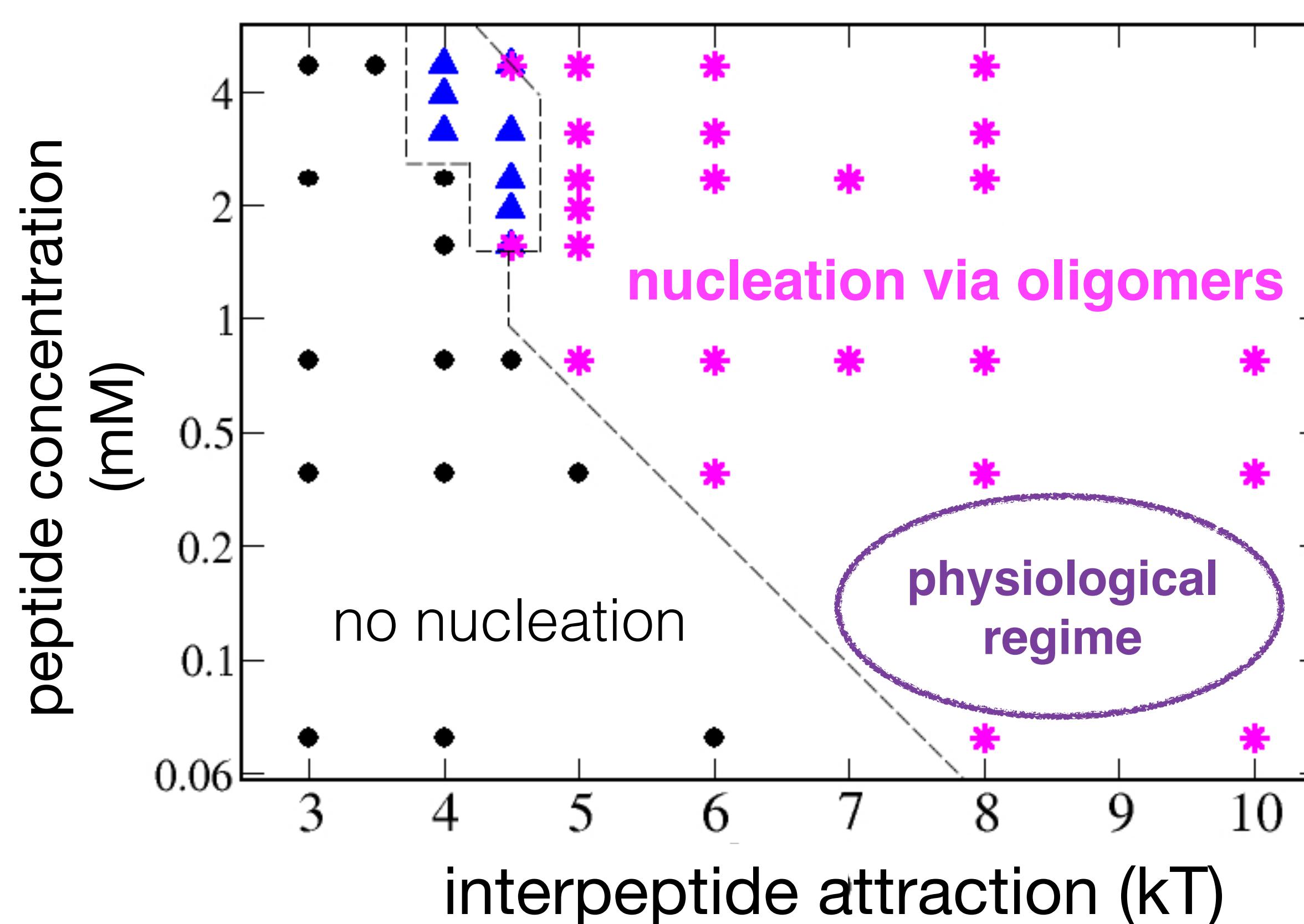
Amyloid aggregation



Simple Physical model



Nucleation via oligomers



Fibril self-replication

