What are pLGICs

Importance of Membranes

Protein modulation by lipids

Sequence/ Structure and lipid binding

pLGIC boundary lipids

Methods

Point of this thesis

What are the general structural features of pLGICs

What is the physiological significance of pLGICs, ie: what do they do

Where are pLGICS found in Mammals

Health related issues of pLGICs

What is an ion channel

What are pLGICs

Importance of Membranes

Protein modulation by lipids

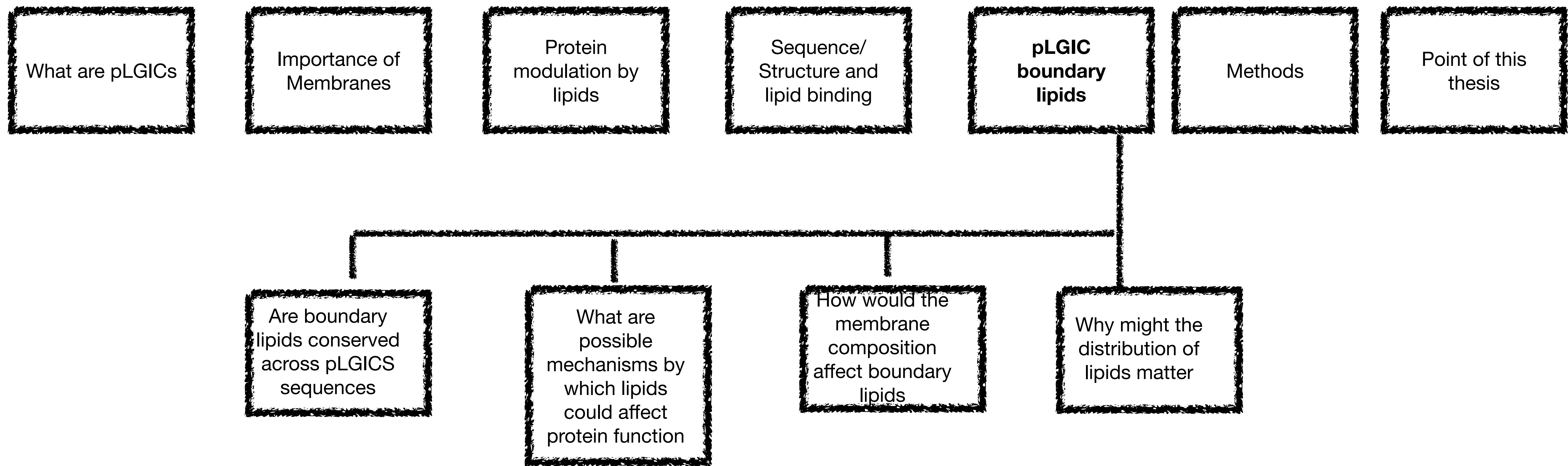Sequence/ Structure and lipid binding

pLGIC boundary lipids

Methods

Point of this thesis

What effect do PUFAs have on a membrane

What effect does CHol have on a membrane

What causes domain formation

How does membrane compositions vary across cell types

What are medical issues of too few n-3 PUFAs

What is a lipid/ membrane

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┌─────────────┐  ┌─────────────┐  ┌─────────────┐  ┌─────────────┐  ┌─────────────┐  ┌─────────────┐  ┌─────────────┐
│ What are    │  │ Importance  │  │ Protein     │  │ Sequence/   │  │ pLGIC       │  │ Methods     │  │ Point of    │
│ pLGICs      │  │ of          │  │ modulation  │  │ Structure   │  │ boundary    │  │             │  │ this        │
│             │  │ Membranes   │  │ by lipids   │  │ and lipid   │  │ lipids      │  │             │  │ thesis      │
│             │  │             │  │             │  │ binding     │  │             │  │             │  │             │
└─────────────┘  └─────────────┘  └─────────────┘  └─────────────┘  └─────────────┘  └─────────────┘  └─────────────┘
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What are pLGICs

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Point of this thesis

How do Lipids affect function

Which lipids have been most studied

What are known functional effects of chol

What conditions have anionic lipids promoted function

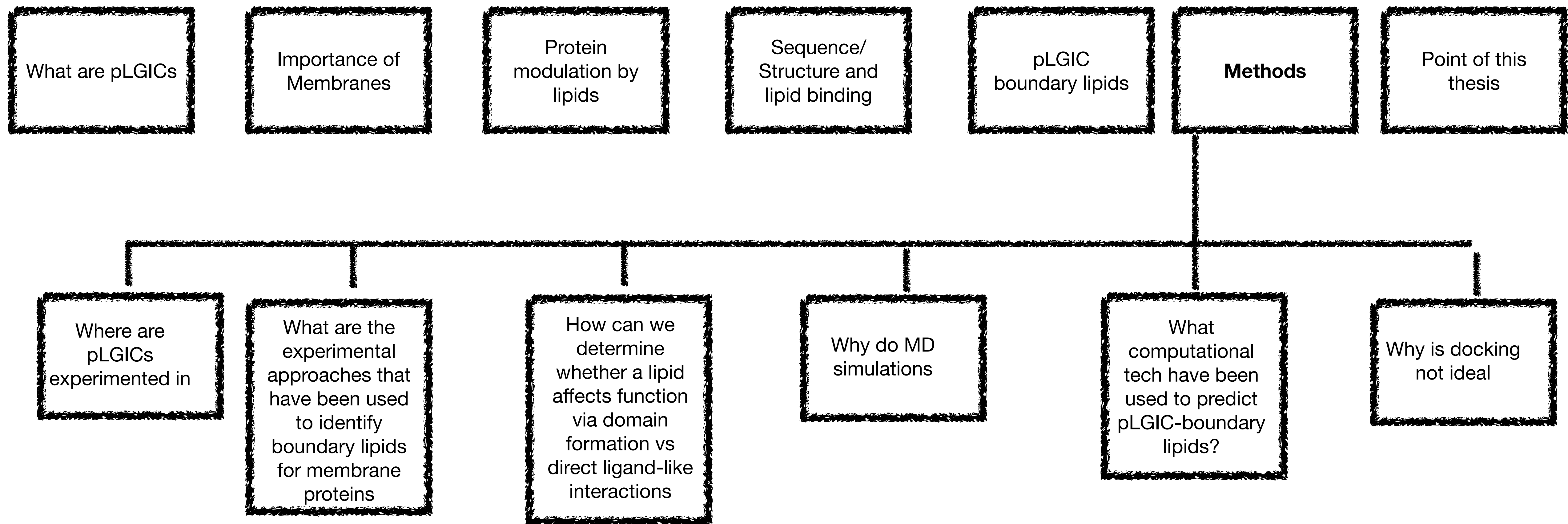| What are pLGICs | Importance of Membranes | Protein modulation by lipids | **Sequence/ Structure and lipid binding** | pLGIC boundary lipids | Methods | Point of this thesis |

| What role might structure of the protein play in lipid occ | How might sequence play a role in lipid-protein binding | How/why can proteins deform membranes | What candidate sites have arisen |

What are pLGICs

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Point of this thesis

Are boundary lipids conserved across pLGICS sequences

What are possible mechanisms by which lipids could affect protein function

How would the membrane composition affect boundary lipids

Why might the distribution of lipids matter

What are pLGICs

Importance of Membranes

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Point of this thesis

Where are pLGICs experimented in

What are the experimental approaches that have been used to identify boundary lipids for membrane proteins

How can we determine whether a lipid affects function via domain formation vs direct ligand-like interactions

Why do MD simulations

What computational tech have been used to predict pLGIC-boundary lipids?

Why is docking not ideal

What are pLGICs

Importance of Membranes

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Point of this thesis

What is the knowledge gap- ie What general question does this particular thesis hope to answer

What was the trajectory of the thesis? Ie how do the different chapters fit together and build on eachother?