

## **Refining the structural model: restraints, ADPs, refinement with validation**

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Successful electron density map interpretation depends on employed refinement strategies. The choice of the proper refinement strategy during model building stage can simplify automation of model building, improve the ability to resolve fine map details and improve the quality of the structural model. We will cover the process of refinement of the structural model at different stages of interpretation of electron density maps focusing on:

- External and internal restraints for protein and ligands during refinement
- TLS and refinement of isotropic and anisotropic atomic displacement parameters (ADPs)
- Coupling refinement with model validation