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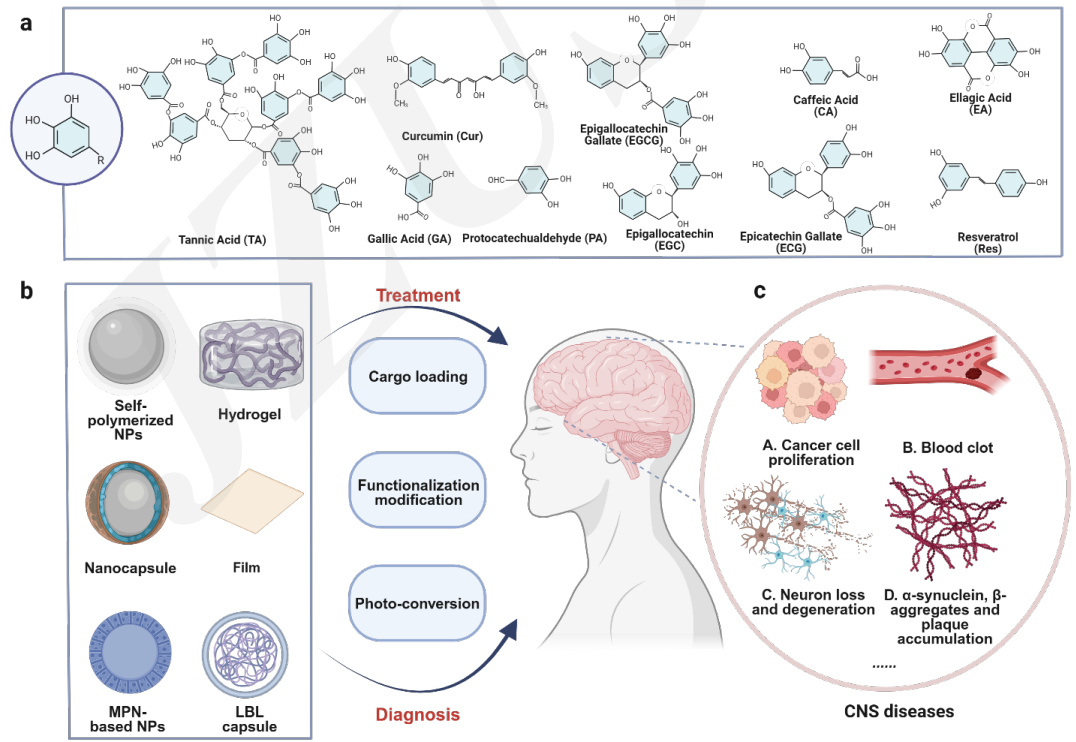
# **Phenolic-enabled nanotechnology: a new strategy for central nervous system disease therapy**

**Key words:** Phenolic-enabled nanotechnology; Metal-phenolic network; Polydopamine; Central nervous system; Drug delivery system

# Research Summary

This review is systematically introduce the fundamental physicochemical properties of PEN materials and its applications in the treatment of CNS. It mainly includes the following aspects:

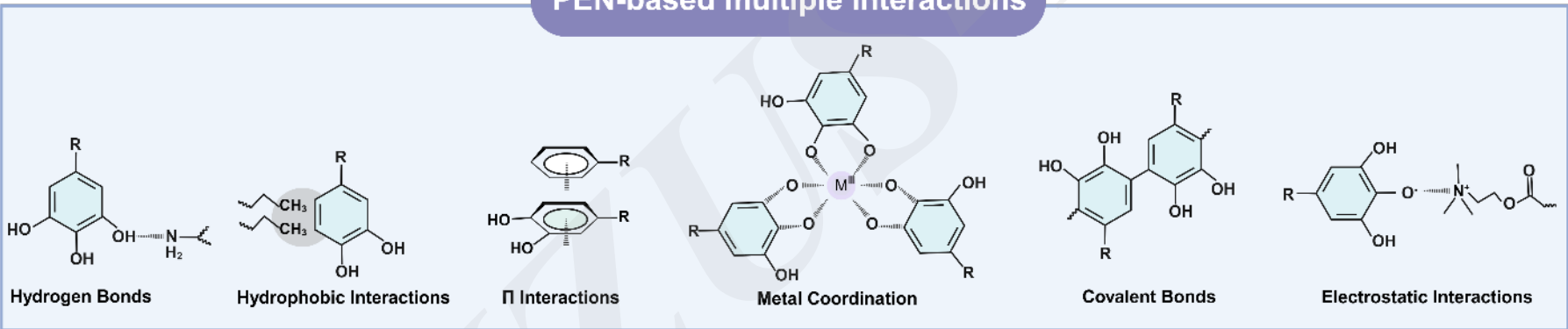
- 1. Physicochemical properties of PEN
- 2. Application of polyphenol-based nanomaterials for CNS diseases



# Research Summary

Here we focus on some basic properties of PEN, mainly including cargo loading, functionalizations, light absorbance and self-assembly, and present the therapeutic potential of PEN in CNS diseases.

## PEN-based multiple interactions



### Cargo loading

Icons illustrating cargo loading: DNA, a cell, a nanoparticle, and a microorganism.

### Functionalization

Icons illustrating functionalization: a blue sphere with red dots, a blue ring with red dots, a black ring with red dots, and a grey ring with red dots.

### Light absorbance

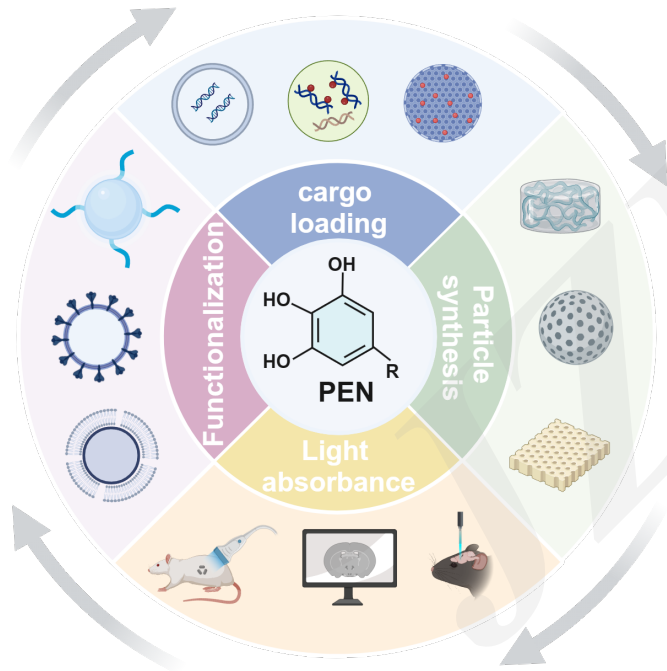
Icons illustrating light absorbance: a mouse, a heart, a computer monitor, and a laboratory instrument.

### Self-assembly

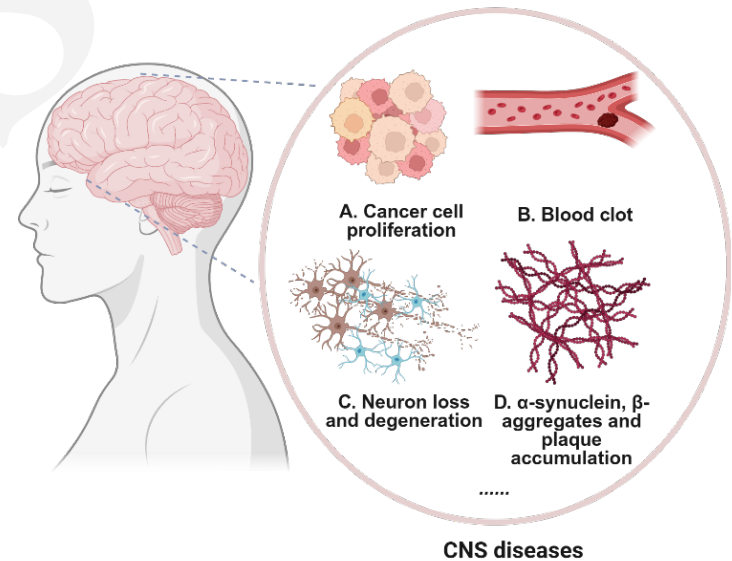
Icons illustrating self-assembly: a black sphere, a grey sphere, a blue cube, and a pink sphere.

# Innovation points

- **Introduction** the fundamental physicochemical properties of PEN materials



- **Summarizes** the role of different PEN materials in the treatment of CNS diseases, and their prospects for development



# ***Innovation points***

**A series of comprehensive tables or figures were generated to summarize the latest knowledge about CBX proteins.**

**Figure 1. The development of PEN for CNS diseases applications.**

**Figure 2. Physicochemical properties of PEN**

**Figure 3. PEN-based multiple interactions.**

**Figure 4. PEN-based functionalization and photo-conversion**

**Figure 5. Application of PEN in the treatment of central nervous system diseases**

**Figure 6. Application of PEN in the treatment of central nervous system diseases**

**Tables 1. In vivo application of PEN in CNS diseases.**