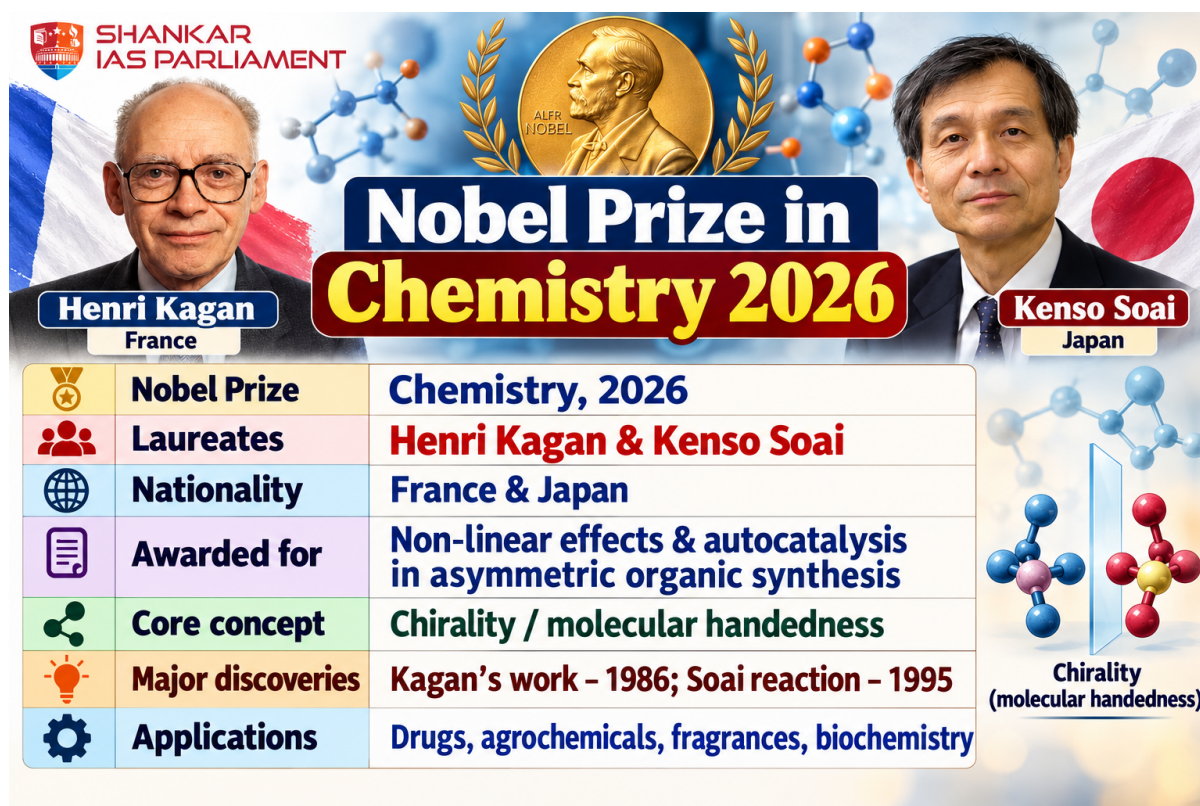


Nobel Prize in Chemistry 2026

Prelims: Current events of national and international importance | Awards

Why in News?

Henri Kagan of France and Kenso Soai of Japan received the 2026 Nobel Prize in Chemistry.



Nobel Prize in Chemistry 2026

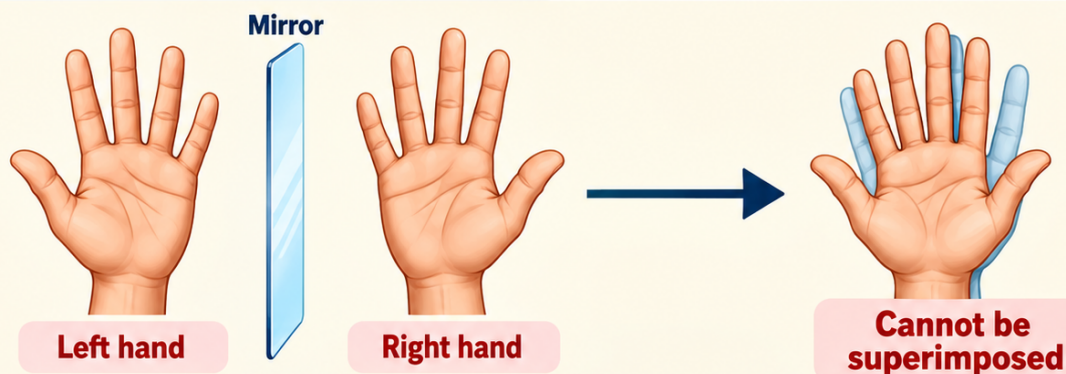
	Nobel Prize	Chemistry, 2026
	Laureates	Henri Kagan & Kenso Soai
	Nationality	France & Japan
	Awarded for	Non-linear effects & autocatalysis in asymmetric organic synthesis
	Core concept	Chirality / molecular handedness
	Major discoveries	Kagan's work - 1986; Soai reaction - 1995
	Applications	Drugs, agrochemicals, fragrances, biochemistry

Chirality (molecular handedness)

- They were recognized for their **discovery of non-linear effects and autocatalysis in asymmetric organic synthesis**.
- Their research demonstrates how minor **molecular asymmetries can be amplified**, thereby elucidating the following phenomena:
 - The production of specific molecular enantiomers.
 - The predominance of a single molecular chirality in biological systems.
- **Chirality** - A molecule is **considered chiral if it can exist** in two forms that are non-superimposable **mirror images of each other**.

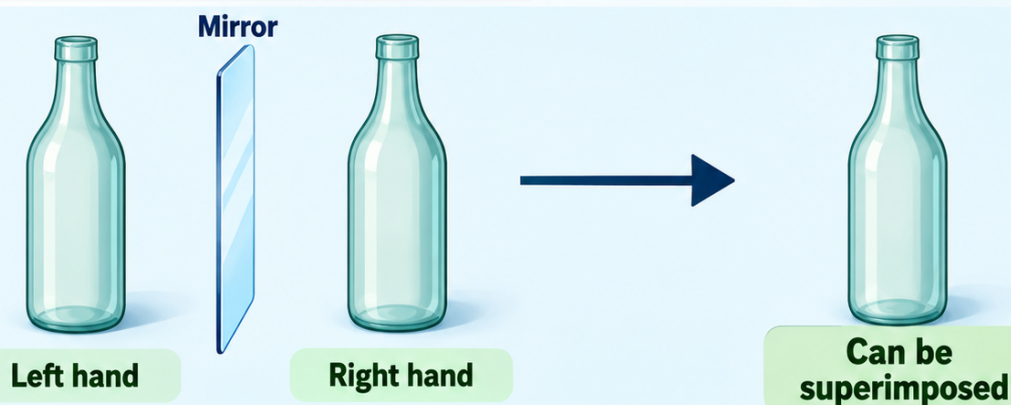
CHIRAL OBJECTS

Non-superimposable
mirror images



ACHIRAL OBJECTS

Superimposable
mirror images



- This property is similar to how our hands are mirror images of each other.
 - Left hand
 - Right hand
- These two mirror-image forms are referred to as **enantiomers**.
- They generally have very similar physical properties in achiral environments but can interact **very differently with chiral biological molecules**.

Key Concepts



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Concept	Meaning	
Chirality	Molecular “handedness”	Left hand Right hand
Enantiomers	Non-superimposable mirror-image molecules	
Asymmetric synthesis	Chemical synthesis favouring one enantiomer	Racemic mixture (both enantiomers) Asymmetric synthesis One enantiomer (favoured)
Non-linear effect	Small change in catalyst composition produces disproportionately large change in product composition	Product enantiomer (%) Catalyst composition (%) Small change in catalyst composition → large change in product composition
Autocatalysis	Product promotes formation of more of itself	Product More product forms
Soai reaction	Famous example of asymmetric autocatalysis	Soai reaction (1995)

Reference

[The Hindu | Nobel Prize in Chemistry 2026](#)



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