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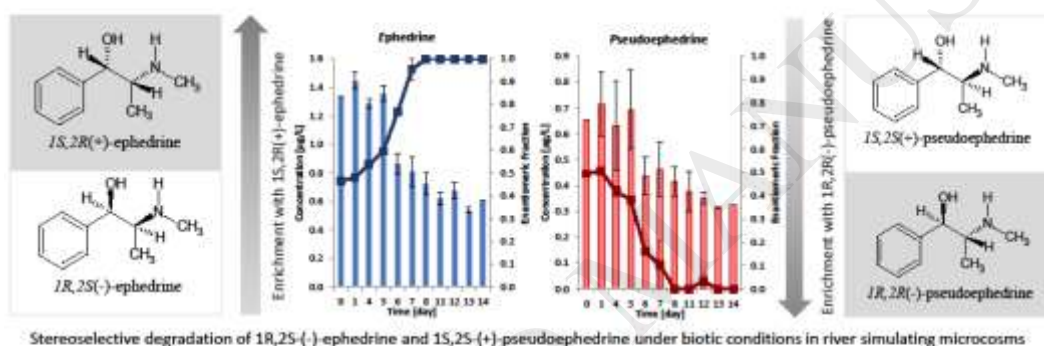
Stereochemistry of ephedrine and its environmental significance: exposure and effects directed approach

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Graphical abstract



Highlights

Ephedrine undergoes stereoselective biodegradation in river simulating microcosms

Stereoselective biodegradation favours natural 1R,2S(-)-ephedrine and 1S,2S(+)-pseudoephedrine

1S,2R(+)-ephedrine and 1R,2R(-)-pseudoephedrine are more toxic to *D. magna*, *P. subcapitata* and *T. thermophile*

1S,2R(+)-ephedrine is formed in single isomer 1R,2S(-)-ephedrine river microcosm indicating chiral inversion

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