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

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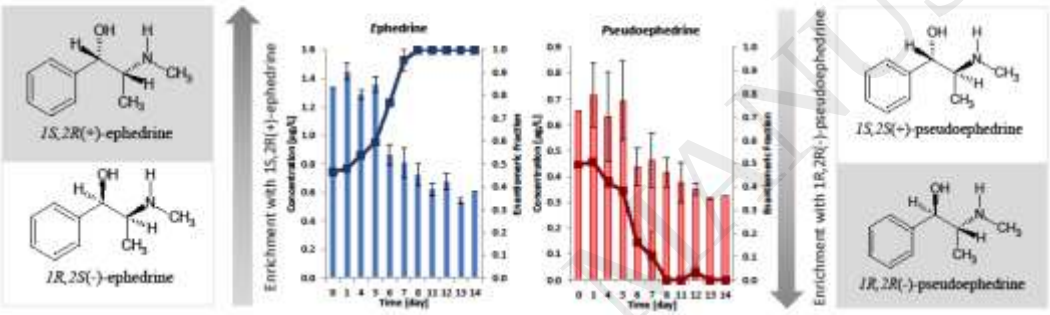
Graphical abstract



Stereoselective degradation of 1R,2S-(-)-ephedrine and 1S,2S-(+)-pseudoephedrine under biotic conditions in river simulating microcosms

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