

PRESS RELEASE FROM MOLECULAR SYSTEMS BIOLOGY
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[Predicting biodegradability: a solution to pollution?](#)

Scientists predict the biodegradability of thousands of chemicals in a study published online this week in *Molecular Systems Biology*. Their findings may help to assess the environmental risk associated with the production, transportation and disposal of organic chemicals.

The biodegradability of organic pollutants released into the environment is largely determined by the ability of microorganisms to break down these substances. Using a database of all known microbial metabolic reactions, Victor de Lorenzo and colleagues were able to train a computer algorithm to distinguish biodegradable chemicals from compounds recalcitrant to biological recycling. Computer-assisted screening of more than 9,000 chemicals suggests that herbicides are amongst the most poorly biodegradable class of molecules.

The extremely rapid pace of production of novel compounds by the chemical and pharmaceutical industry makes the detailed experimental assessment of their biodegradability virtually impossible. Automatic predictive methods, such as the one described in the current study, are therefore important to evaluate the potential of new compounds to pollute the environment. The new predictive system may help to implement recent international regulations on the use of new chemicals.

Chemical combination effects predict connectivity in biological systems

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