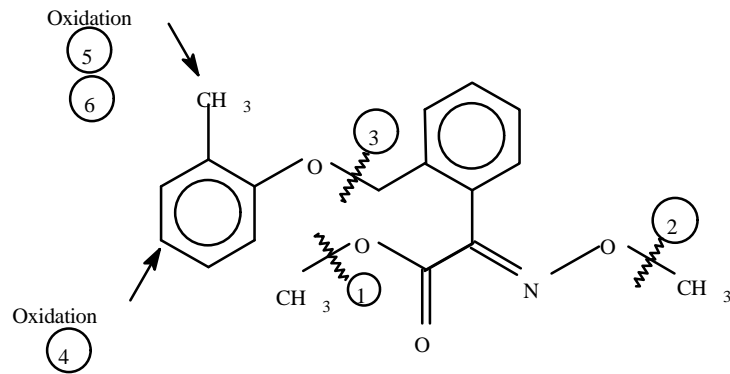


KRESOXIM-METHYL FIGURES 1-13**Figure 1.** Metabolic reactions of kresoxim-methyl in rats.

1. Ester cleavage
2. Oxime ether cleavage
3. Benzyl ether cleavage
4. Oxidation on the phenoxy ring
5. Oxidation of methyl group on the phenoxy ring
6. Subsequent oxidation to the carboxylic acid

Figure 2. Metabolic pathways of kresoxim-methyl in goats.

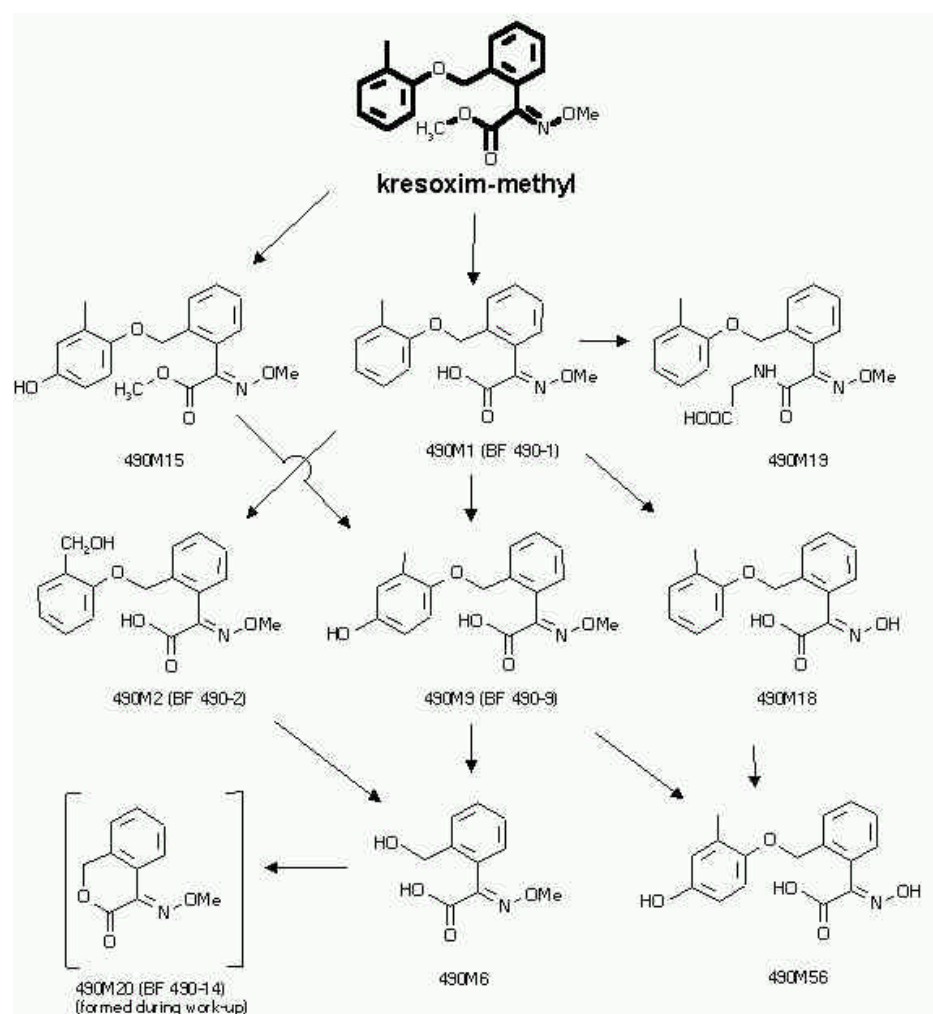


Figure 3. Metabolic pathways of kresoxim-methyl in poultry.

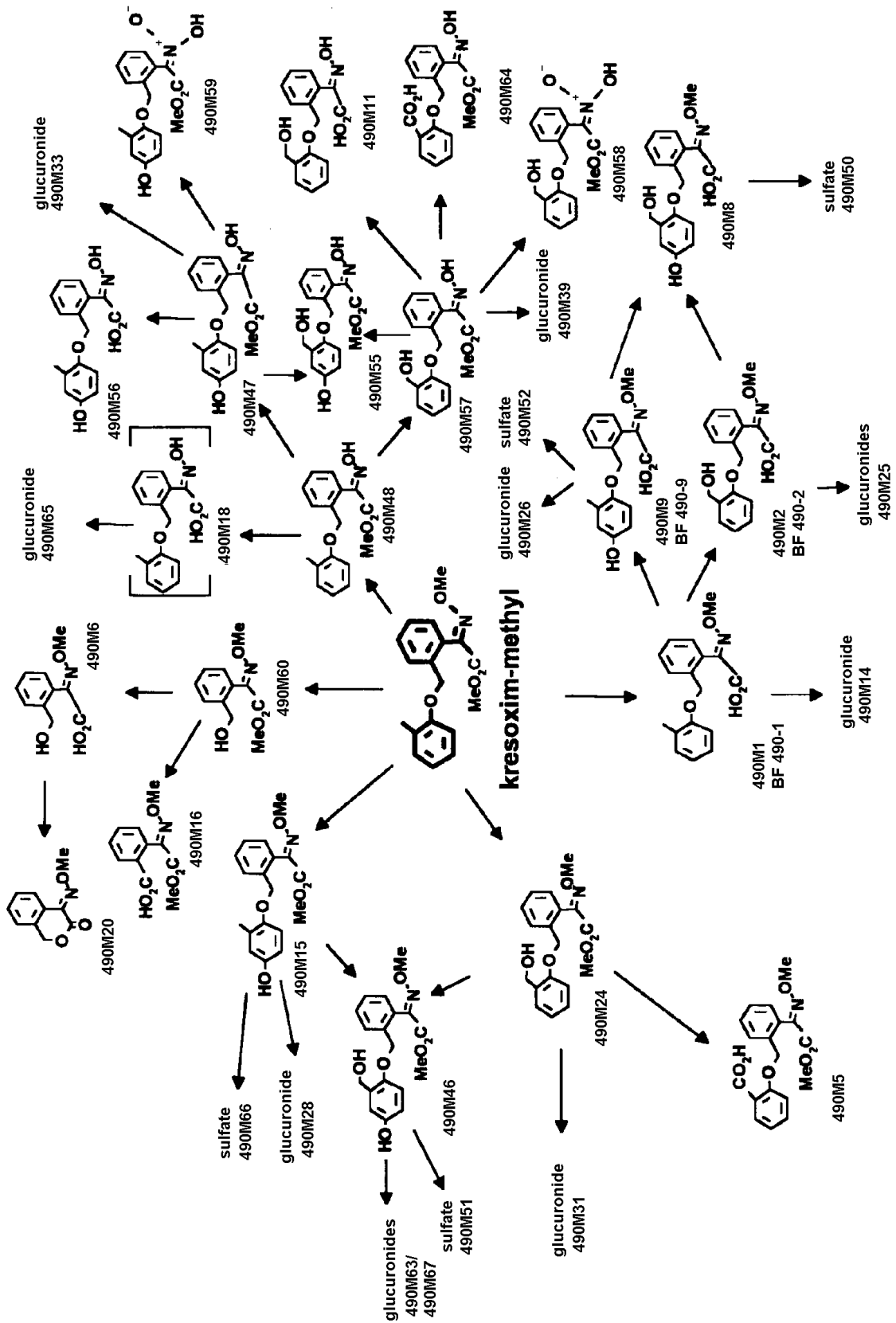


Figure 4. Extraction and characterization of apple peel samples.

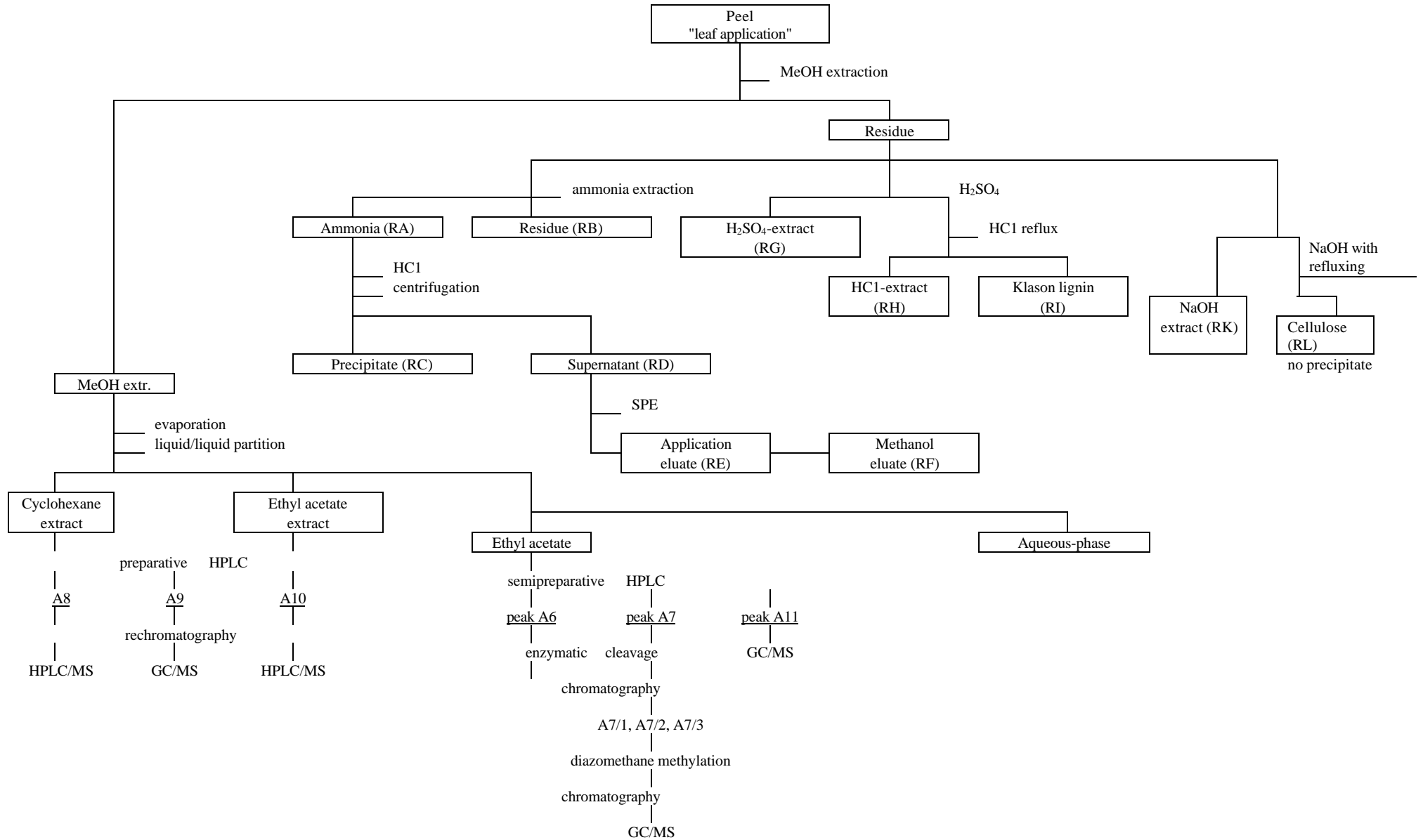


Figure 5. Extraction and characterization of apple pulp samples.

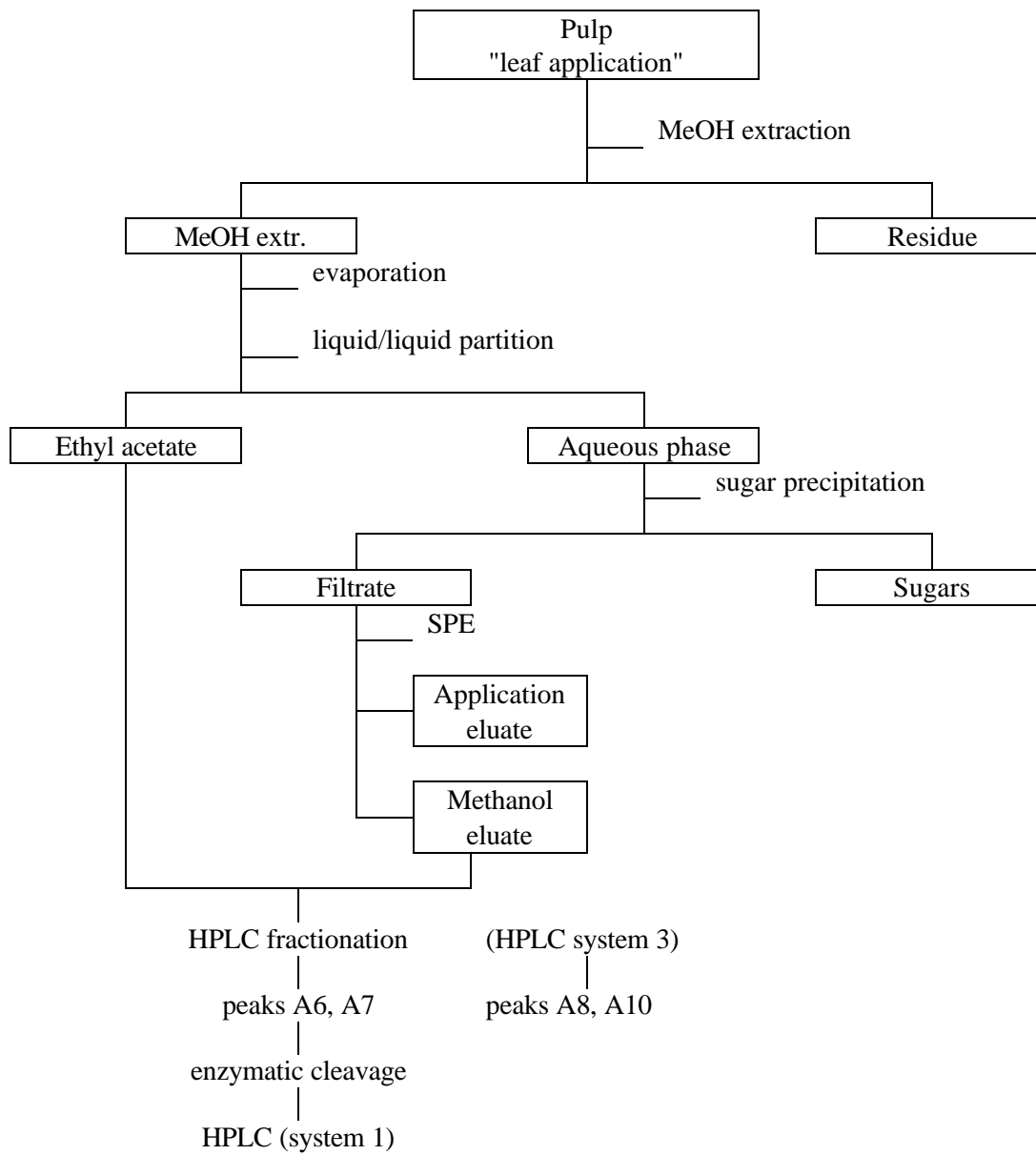
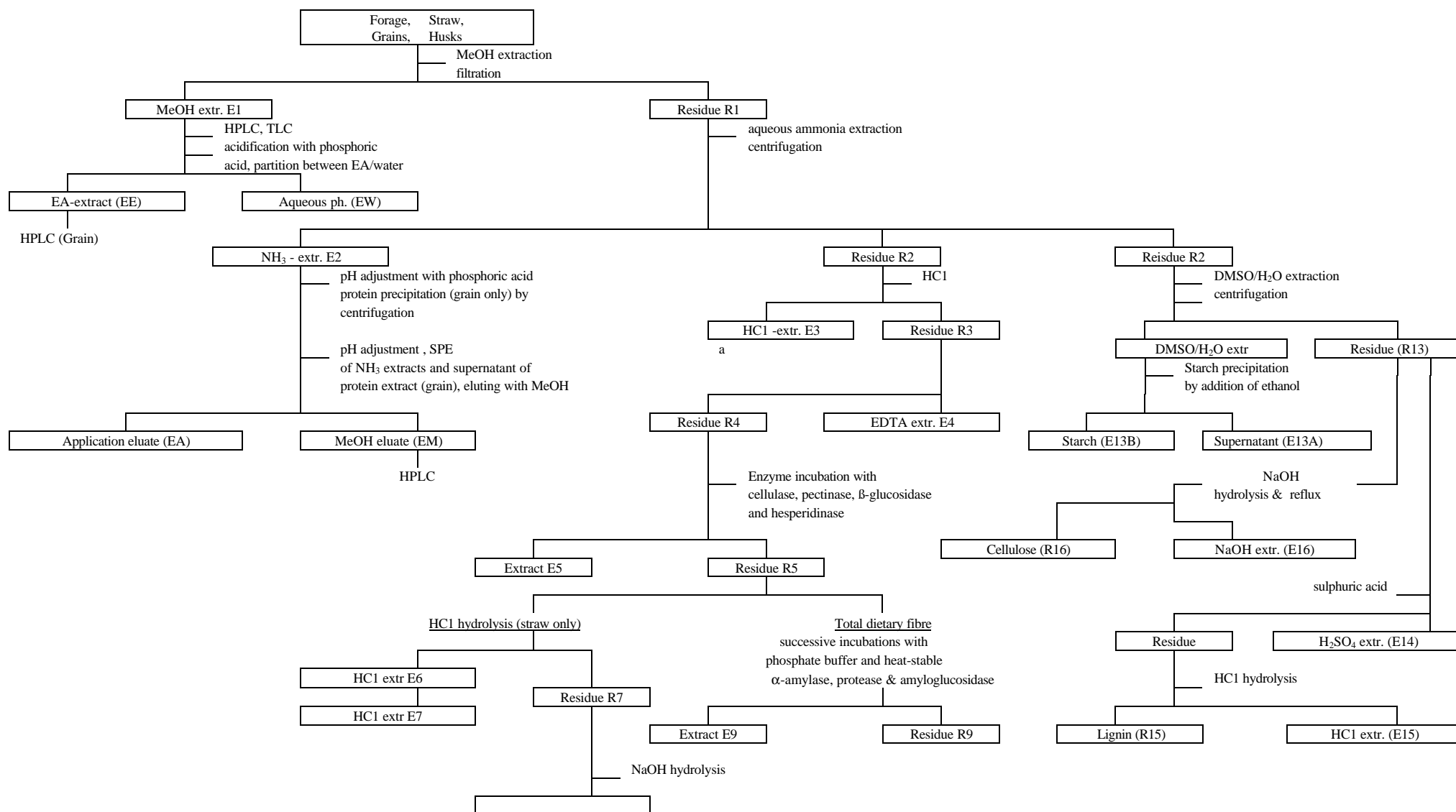


Figure 6. Extraction and characterization of radioactive residues in wheat forage, straw and grain.

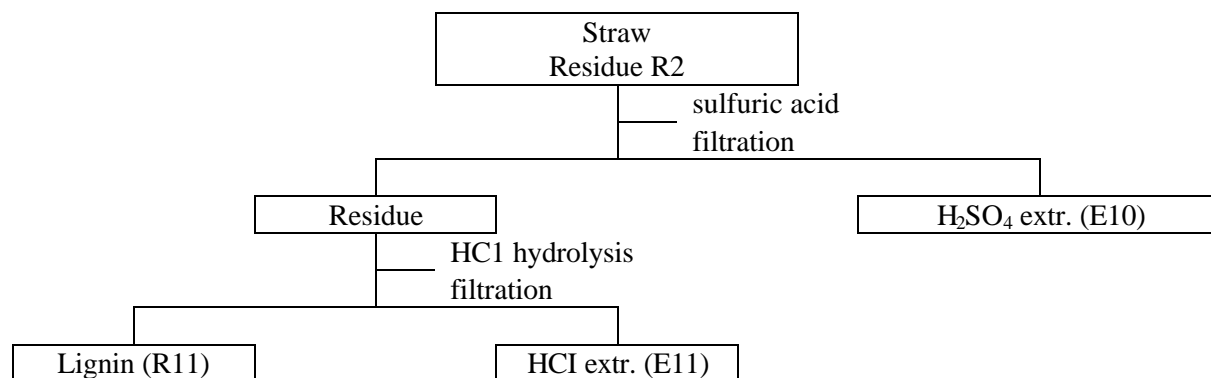


aqueous NaOH extr. E8

Residue R8

Figure 7. Characterization of unextractable residues in wheat straw.

A) Klason Lignin



B) Cellulose fractionation

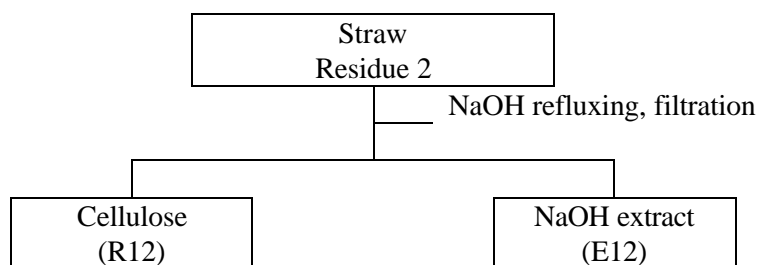
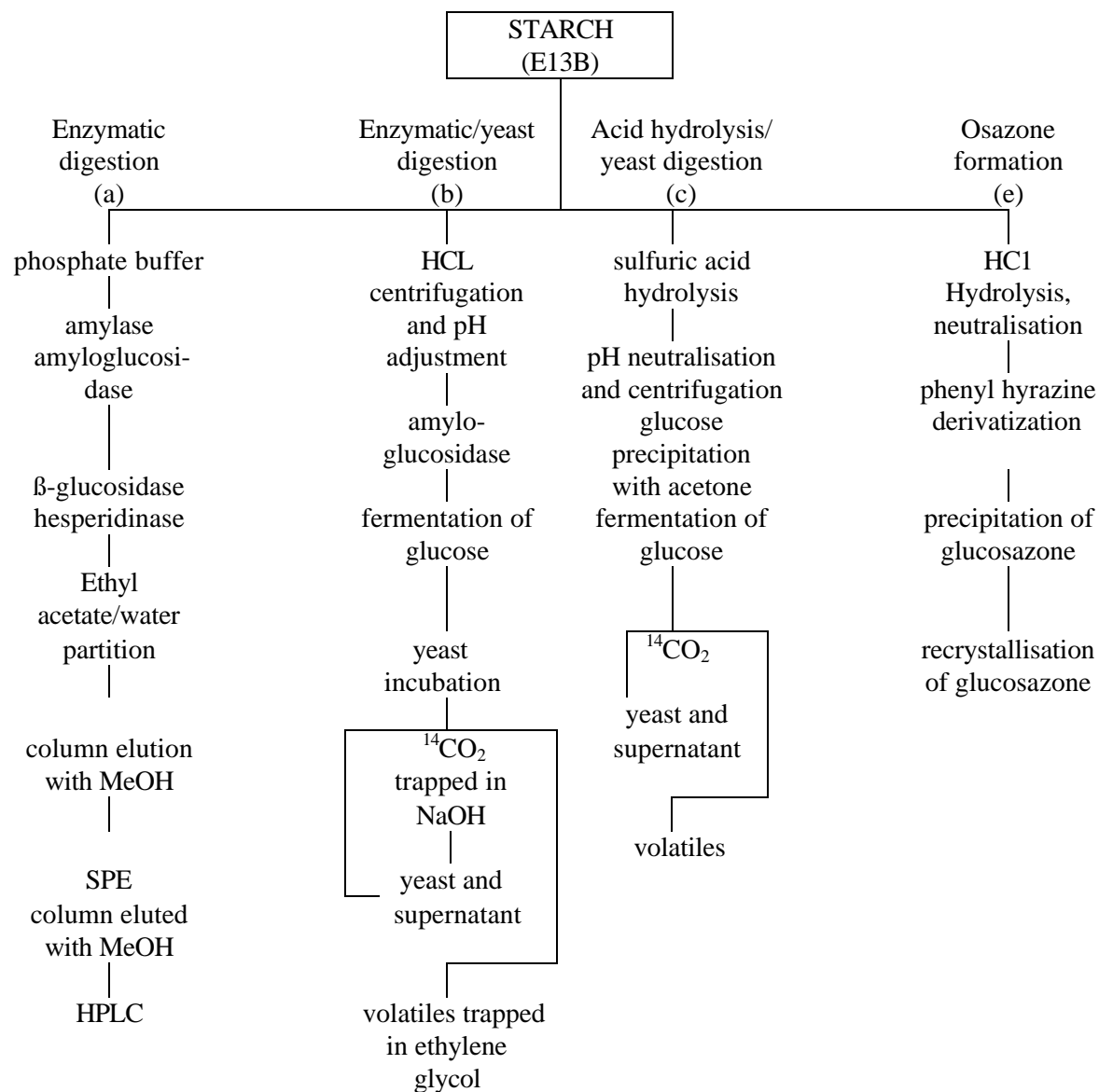


Figure 8. Fractionation of wheat starch.



(d): as trial (c), but with commercially available ¹⁴C glucose

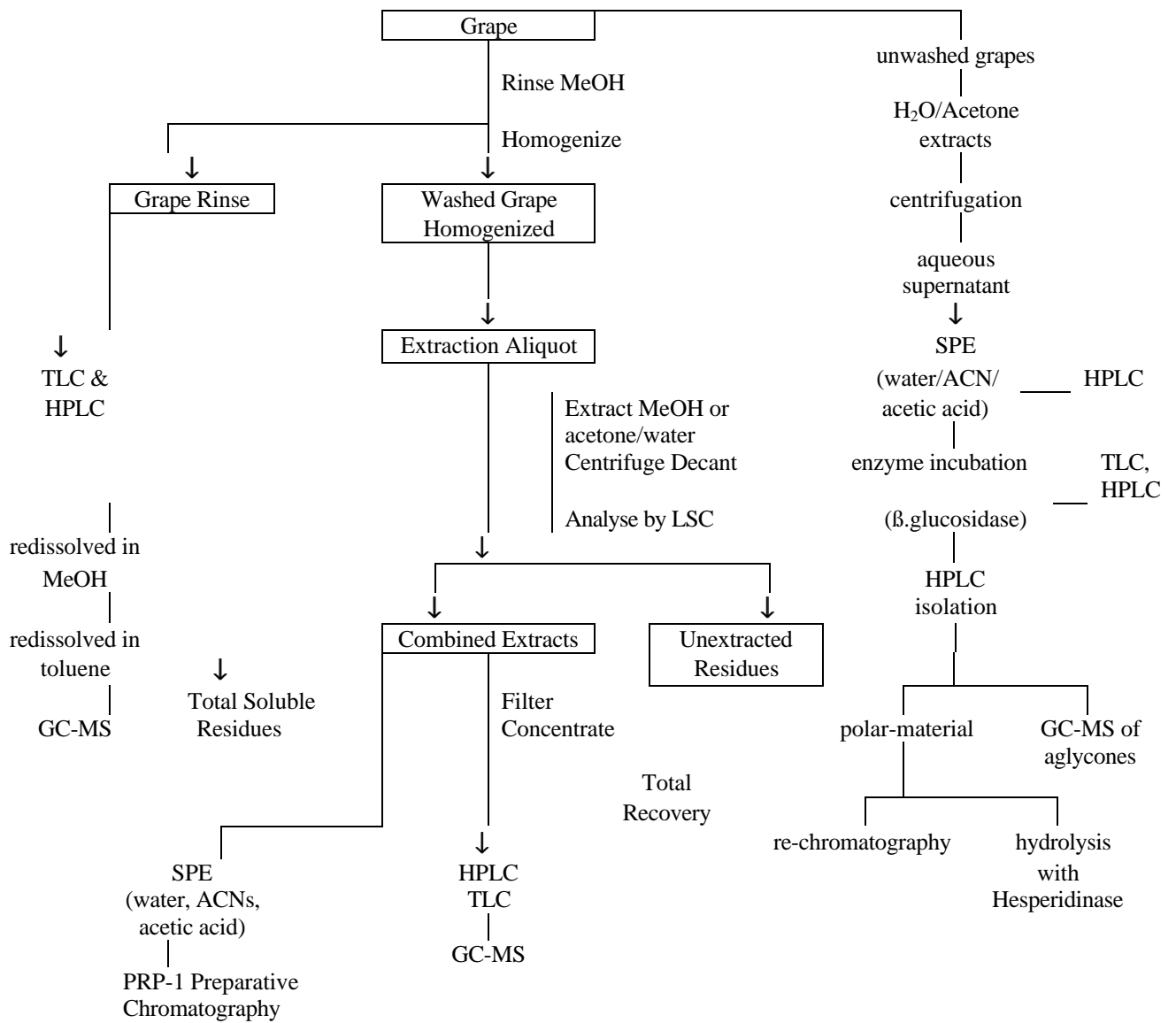
Figure 9. Extraction and characterization of ^{14}C residues in grapes.

Figure 10. Metabolic pathways of kresoxim-methyl in apples, wheat and following crops

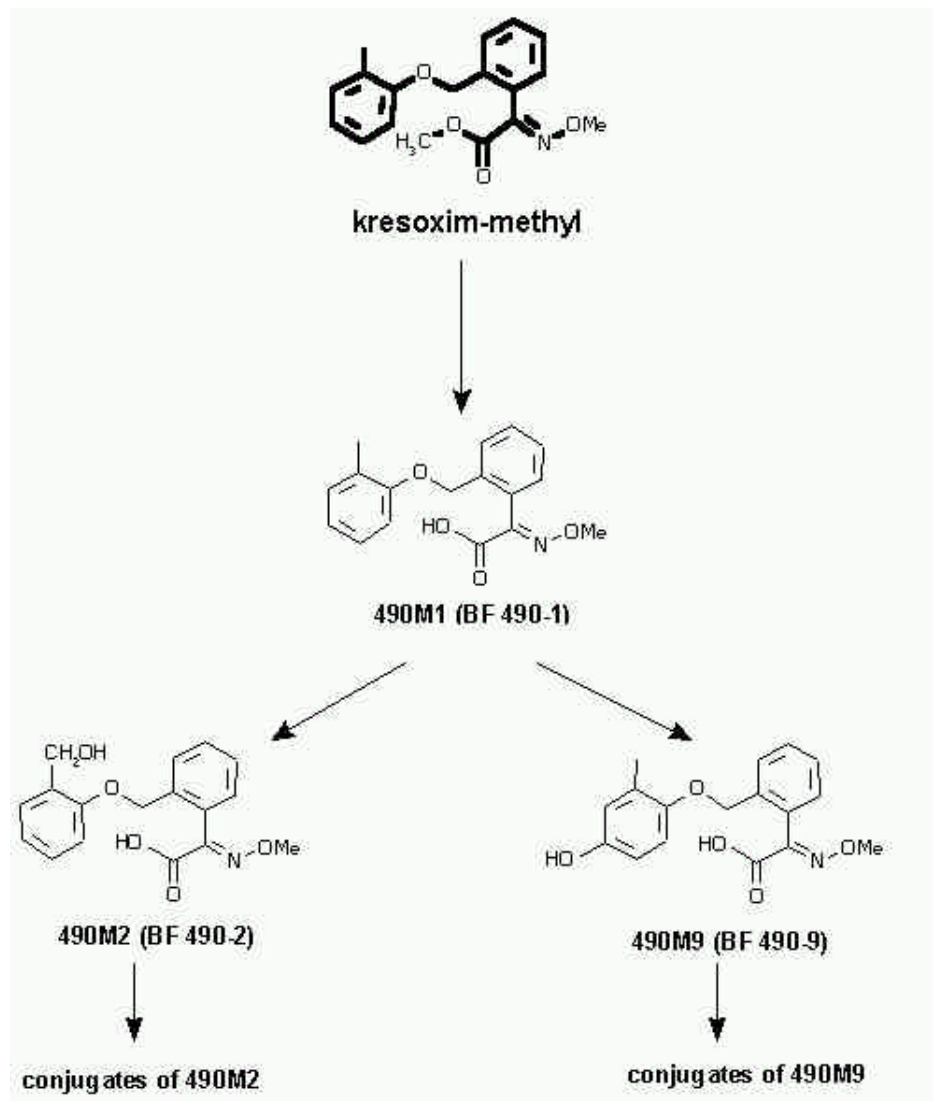


Figure 11. Metabolic pathways of kresoxim-methyl in grapes.

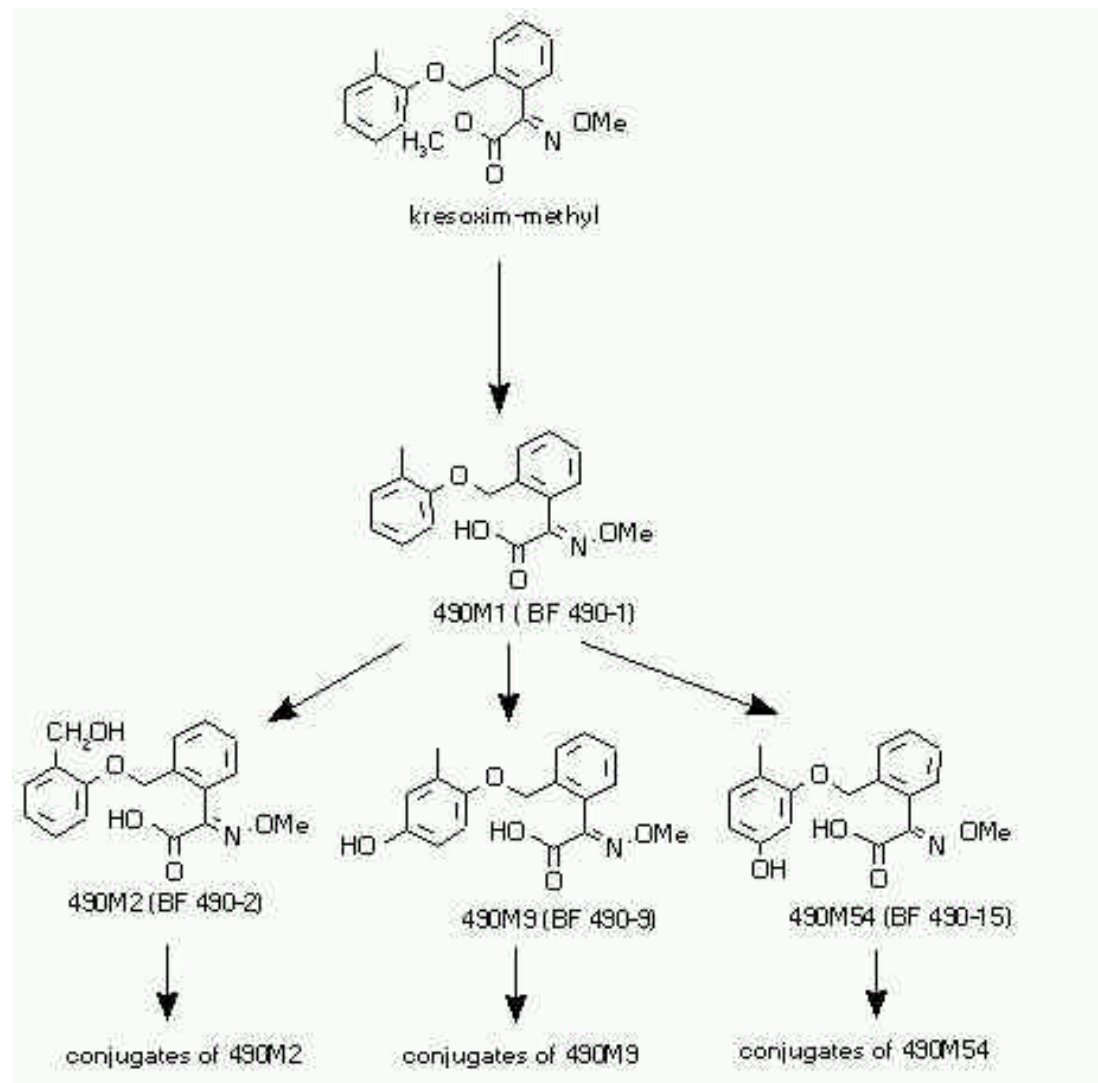
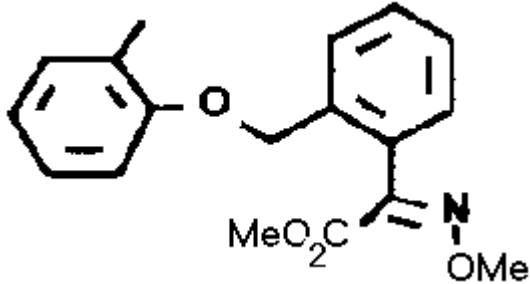
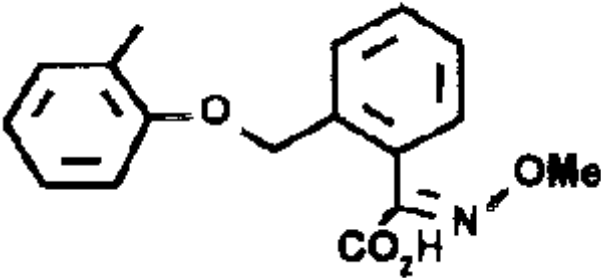
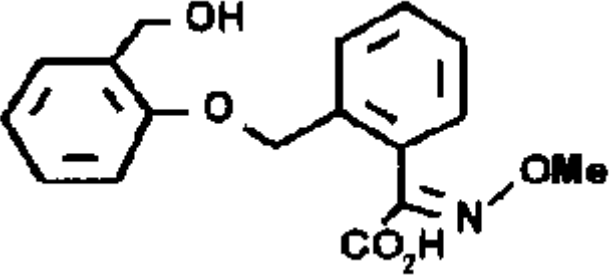
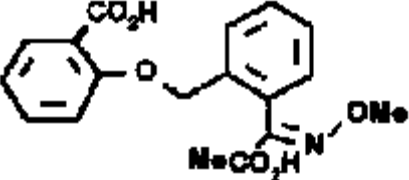
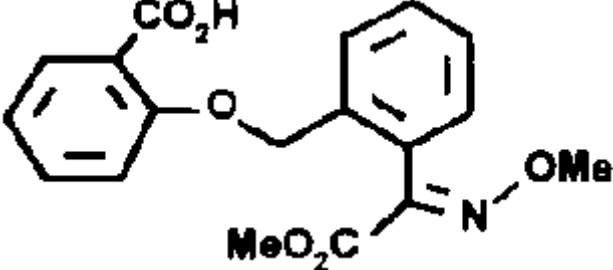
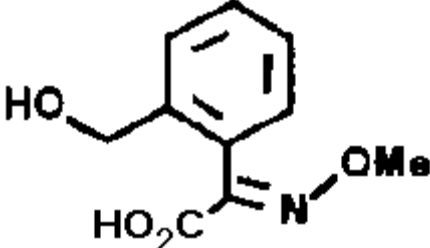
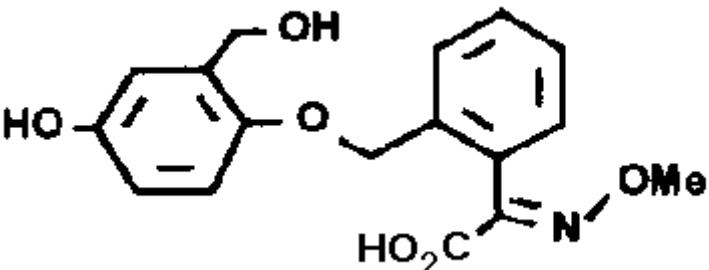
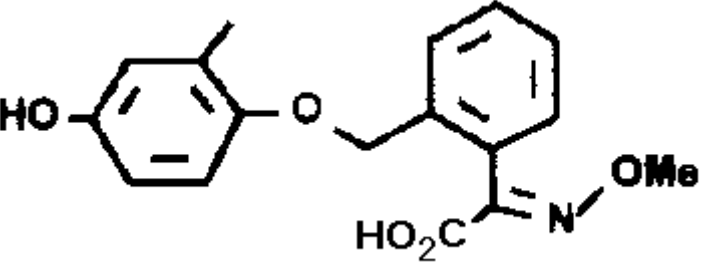
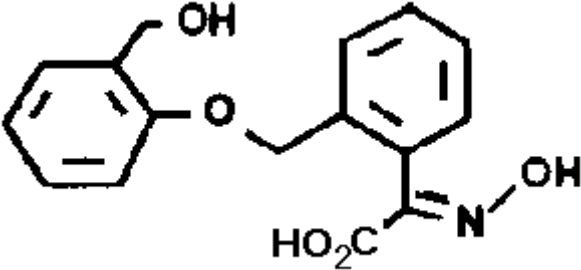
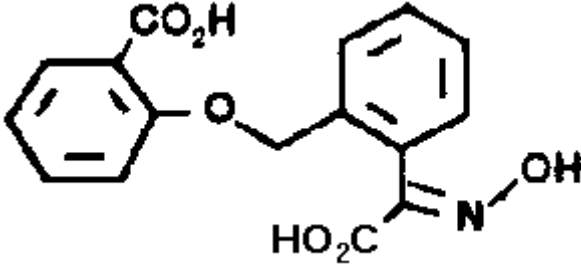
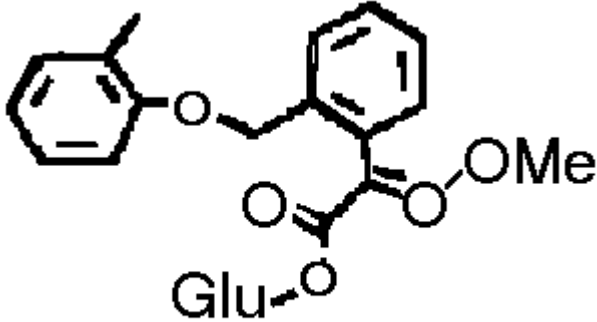
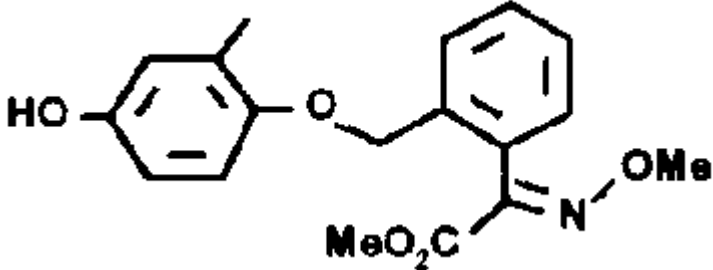
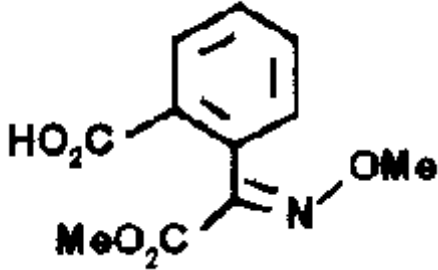
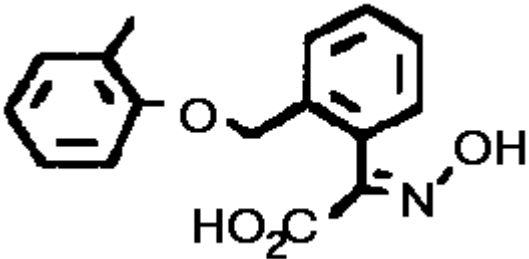
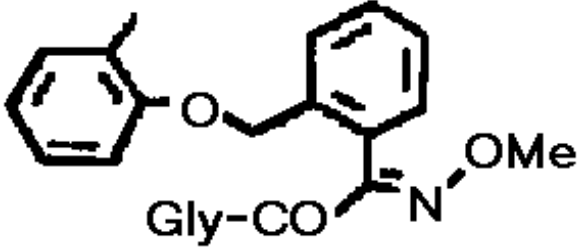
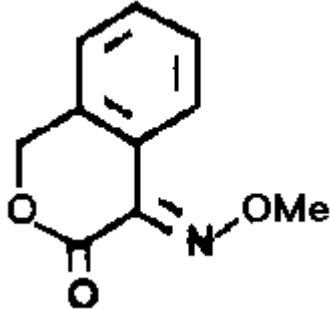
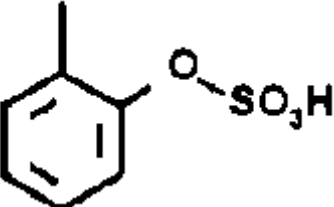
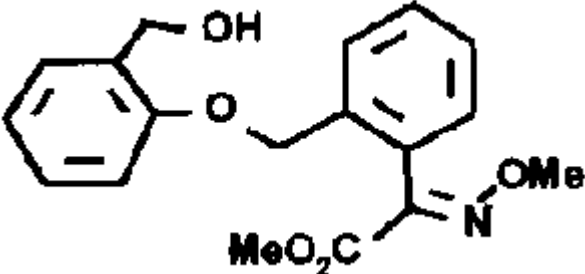
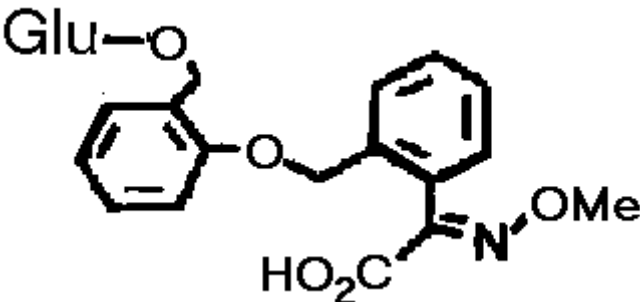
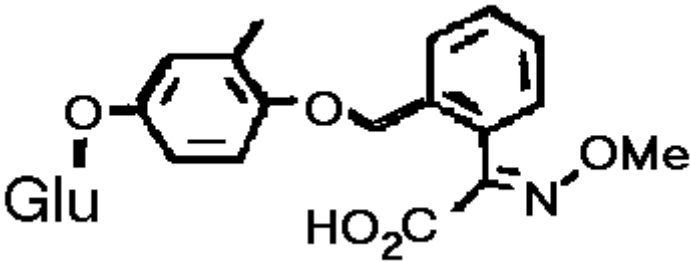


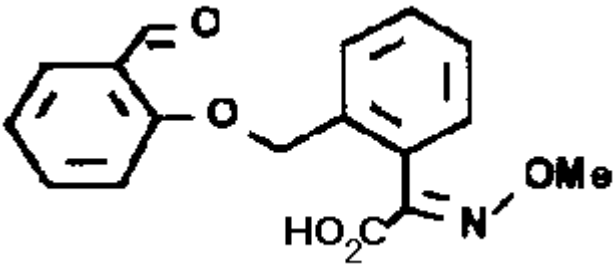
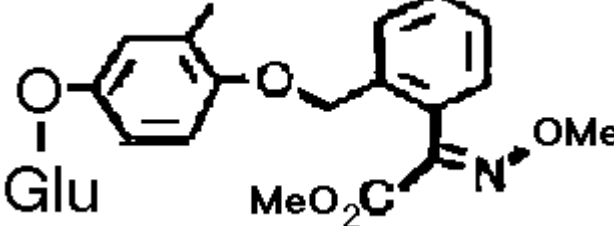
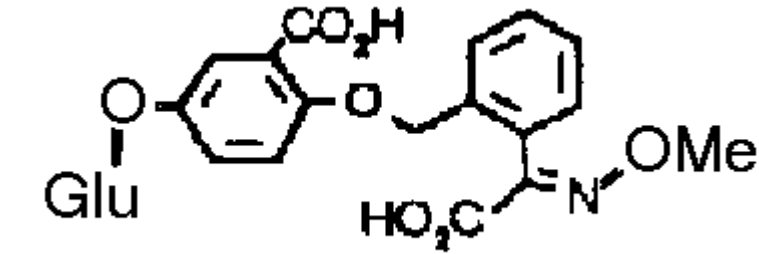
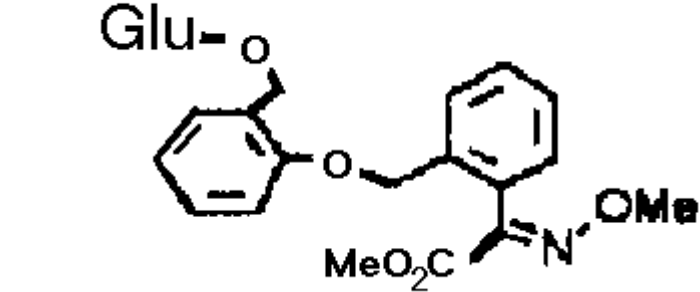
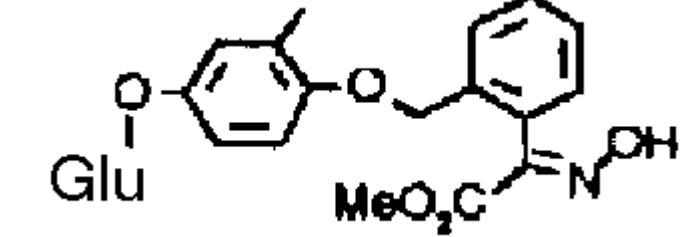
Figure 12. Code names and structures of degradation products and metabolites of kresoxim-methyl.

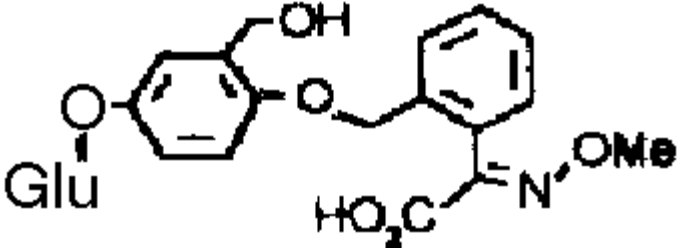
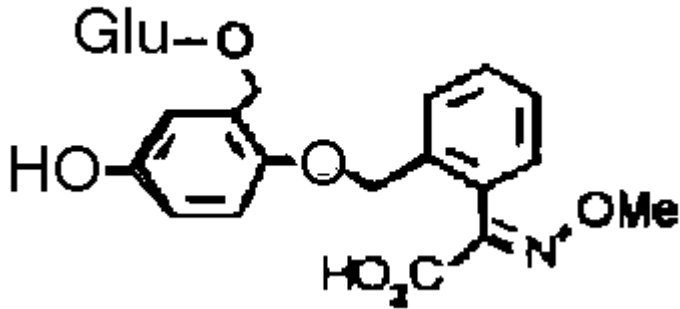
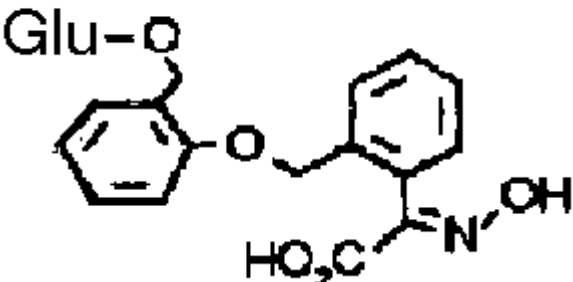
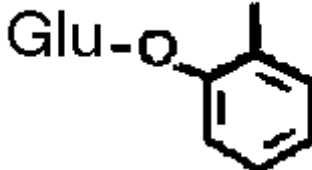
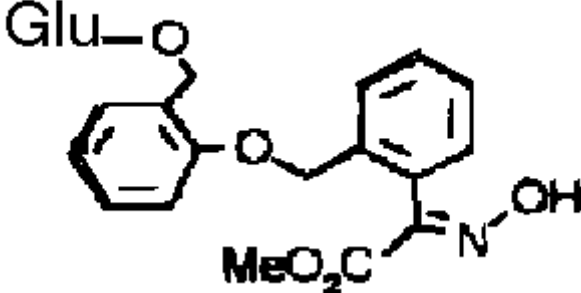
Code	Structure	Occurrence
490M0 (Z)-Isomer (242010)		Rat
490M1 BF 490-1 (262451)		Rat Goat Hen Apple Wheat Soil Water
490M2 BF 490-2 (291685)		Rat Goat Apple Wheat Grape
490M4 BF 490-5 (286404)		Rat Soil
490M5		Rat Hen

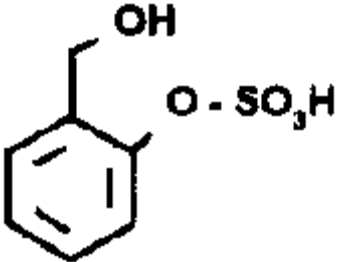
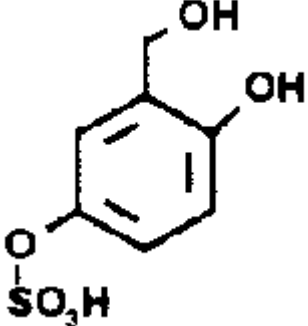
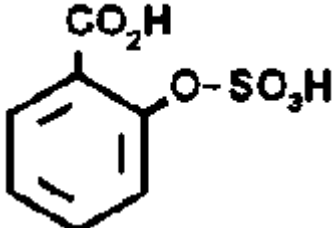
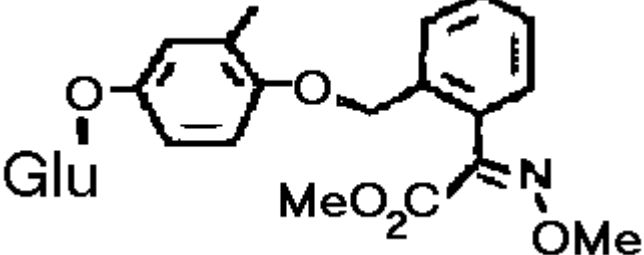
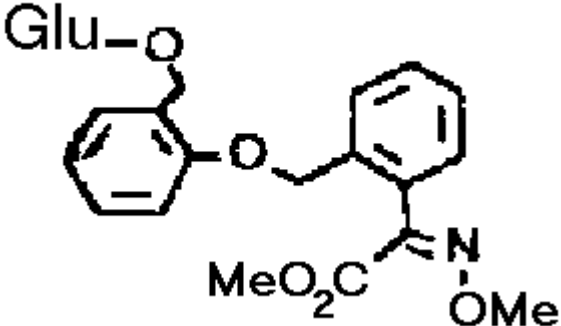
Code	Structure	Occurrence
490M6		Rat Goat Hen
490M8 BF 490-11 (303218)		Rat Hen
490M9 BF 490-9 (292932)		Rat Goat Hen Apple Wheat Grape
490M11		Rat Hen
490M12		Rat

Code	Structure	Occurrence
490M14		Rat Hen
490M15 BF 490-4 (299446)		Rat Goat Hen
490M16		Rat Hen
490M18 BF 490-8 (299153)		Goat
490M19		Goat

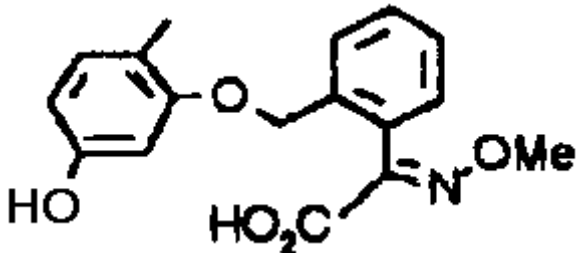
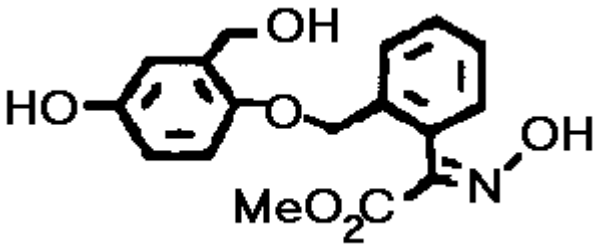
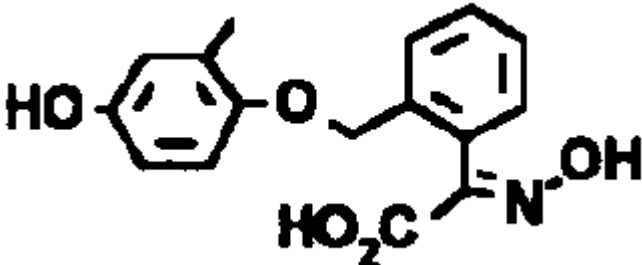
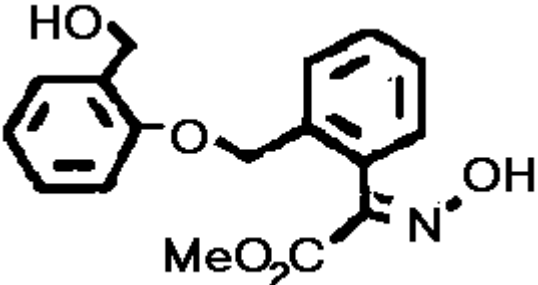
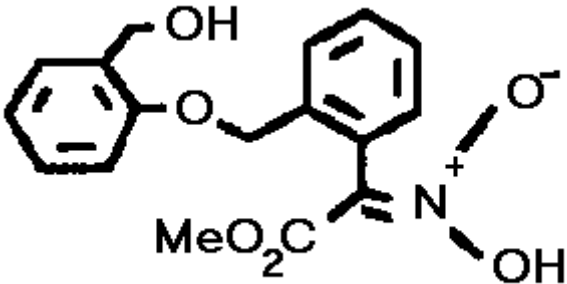
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490M22		Rat
490M24		Rat Hen
490M25		Rat Hen
490M26		Rat Hen

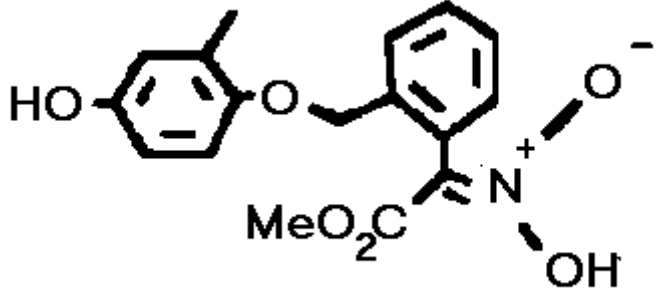
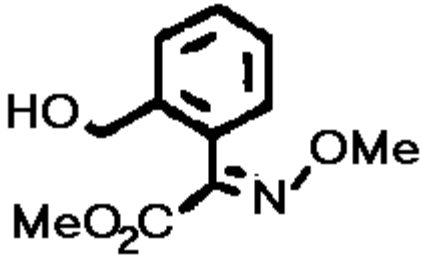
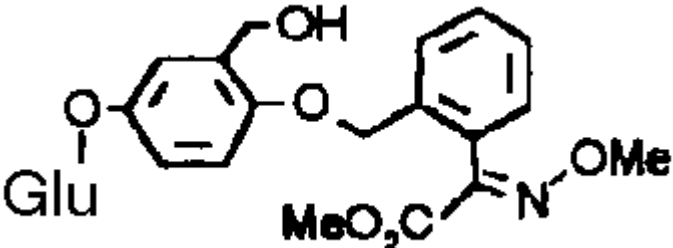
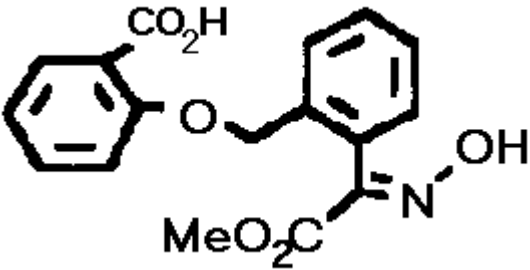
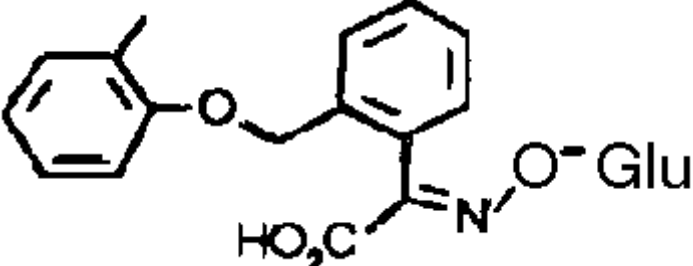
Code	Structure	Occurrence
490M27		Rat
490M28		Rat Hen
490M29		Rat
490M31		Rat Hen
490M33		Rat Hen

Code	Structure	Occurrence
490M34		Rat
490M35		Rat
490M36		Rat
490M37		Rat
490M39		Rat Hen

Code	Structure	Occurrence
490M41	 <p>Chemical structure of 3-(hydroxymethyl)benzenesulfonic acid. It consists of a benzene ring with a hydroxymethyl group (-CH₂OH) at the 3-position and a sulfonic acid group (-SO₃H) at the 1-position.</p>	Rat
490M42	 <p>Chemical structure of 3-(hydroxymethyl)-4-hydroxybenzenesulfonic acid. It consists of a benzene ring with a hydroxymethyl group (-CH₂OH) at the 3-position, a hydroxyl group (-OH) at the 4-position, and a sulfonic acid group (-SO₃H) at the 1-position.</p>	Rat
490M43	 <p>Chemical structure of 3-(carboxymethyl)benzenesulfonic acid. It consists of a benzene ring with a carboxymethyl group (-CH₂CO₂H) at the 3-position and a sulfonic acid group (-SO₃H) at the 1-position.</p>	Rat
490M44	 <p>Chemical structure of a bis-phenol ether derivative. It features two phenyl rings connected by an ether linkage (-O-). The left phenyl ring has a glutamate group (-Glu) attached at the 4-position. The right phenyl ring has a methoxycarbonyl group (-CO₂Me) and a methoxy group (-OMe) attached at the 2-position, and is also connected to a nitrogen atom via a double bond.</p>	Rat
490M45	 <p>Chemical structure of a bis-phenol ether derivative. It features two phenyl rings connected by an ether linkage (-O-). The left phenyl ring has a glutamate group (-Glu) attached at the 4-position. The right phenyl ring has a methoxycarbonyl group (-CO₂Me) and a methoxy group (-OMe) attached at the 2-position, and is also connected to a nitrogen atom via a double bond.</p>	Rat

Code	Structure	Occurrence
490M46		Hen
490M48 BF 490-3 (266042)		Hen
490M50		Hen
490M51		Hen
490M52		Hen
490M53		Rat

Code	Structure	Occurrence
490M54 BF 490-15		Grape
490M55		Hen
490M56		Goat Hen
490M57		Hen
490M58		Hen

Code	Structure	Occurrence
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490M60		Hen
490M63		Hen
490M64		Hen
490M65		Hen

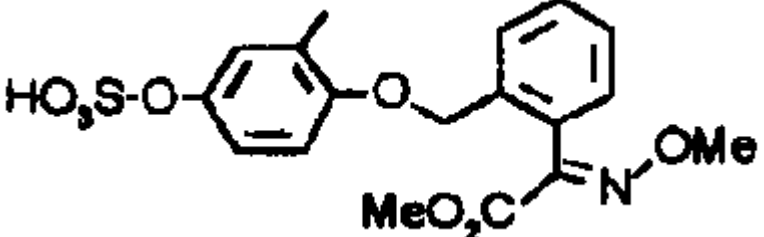
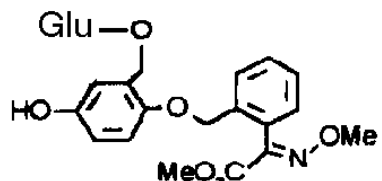
Code	Structure	Occurrence
490M66	 <p>Chemical structure of 490M66: A benzene ring with a sulfonate group ($\text{HO}_3\text{S}-\text{O}$) at the para position and a methylene group ($-\text{O}-\text{CH}_2-$) at the other para position. The methylene group is connected to another benzene ring. This second benzene ring has a methyl group ($-\text{CH}_3$) at the para position and a methine group ($=\text{C}(\text{MeO}_2\text{C})-\text{N}(\text{OMe})$) at the other para position.</p>	Hen
490M67	 <p>Chemical structure of 490M67: A benzene ring with a hydroxyl group ($-\text{OH}$) at the para position and a methylene group ($-\text{O}-\text{CH}_2-$) at the other para position. The methylene group is connected to another benzene ring. This second benzene ring has a methyl group ($-\text{CH}_3$) at the para position and a methine group ($=\text{C}(\text{MeO}_2\text{C})-\text{N}(\text{OMe})$) at the other para position. A glucose moiety ($\text{Glu}-\text{O}$) is attached to the benzene ring at the meta position relative to the hydroxyl group.</p>	Hen

Figure 13. Proposed degradation pathway of kresoxim-methyl in soil.

