**UV-Vis spectra and mass/mass spectra of clethodim transformation products (C1-C9).**

|  |  |
| --- | --- |
|  |  |
|  |
|  |
|  |  |
|  |
|  |
|  |  |
|  |

|  |  |
| --- | --- |
|  |  |
|  |
|  |
|  |  |
|  |
|  |
|  |  |
|  |

**UV-Vis spectra and mass/mass spectra of sethoxydim transformation products (S1-S9).**

|  |  |
| --- | --- |
|  |  |
|  |
|  |
|  |  |
|  |
|  |
|  |  |
|  |
|  |  |
|  |
|  |
|  |  |
|  |
|  |
|  |  |
|  |

**Isomeric structures of clethodim and its degradation products (C1-C9).**

|  |
| --- |
|  |
| ***E*-clethodim** |
|  |
|  |
|  |
| *Z*-clethodim (C1) |
|  |
|  |
|  |
| Dechloroallyoxylated clethodim (C2) |
|  |
|  |
|  |  |  |  |
| (RR,SS)+(RS,SR) *Z*-clethodim sulfoxides (C3&C4) |
|  |
|  |
|  |  |  |  |
| (RR,SS)+(RS,SR) *E*-clethodim sulfoxides (C5&C6) |
|  |
|  |
|  |  |  |  |
| (RR,SS)+(RS,SR) dechloroallyoxylated clethodim sulfoxides (C7&C8) |
|  |
|  |
|  |
| Dechloroallyoxylated clethodim ketone (C9) |

**Isomeric structures of sethoxydim and its degradation products (S1-S9).**

|  |
| --- |
|  |
| ***E*-sethoxydim** |
|  |
|  |
|  |
| *Z*-sethoxydim (S1) |
|  |
|  |
|  |
| Deethoxylated sethoxydim (S2) |
|  |
|  |
|  |  |  |  |
| (RR,SS)+(RS,SR) *Z*- sethoxydim sulfoxides (S3&S4) |
|  |
|  |
|  |  |  |  |
| (RR,SS)+(RS,SR) *E*- sethoxydim sulfoxides (S5&S6) |
|  |
|  |
|  |  |  |  |
| (RR,SS)+(RS,SR) deethoxylated sethoxydim sulfoxides (S7&S8) |
|  |
|  |
|  |
| Deethoxylated sethoxydim ketone (S9) |

**Kinetic profiles of the photoproducts formed during the irradiation of clethodim (C1-C9) in leaf and soil model systems.**

|  |  |  |
| --- | --- | --- |
| **Leaf surface model systems** |  | **Soil surface model systems** |
|  |  |  |
| MeOH |  | Glass disk |
|  |  |  |
|  |  |  |
| 2-Propanol |  | Silica gel plates |
|  |  |  |
|  |  |  |
| Cyclohexane |  |  |
|  |  |  |

**Kinetic profiles of the photoproducts formed during the irradiation of sethoxydim (S1-S9) in leaf and soil model systems.**

|  |  |  |
| --- | --- | --- |
| **Leaf surface model systems** |  | **Soil surface model systems** |
|  |  |  |
| MeOH |  | Glass disk |
|  |  |  |
|  |  |  |
| 2-Propanol |  | Silica gel plates |
|  |  |  |
|  |  |  |
| Cyclohexane |  |  |
|  |  |  |