

**Data S1. Chromatograms and molecular ion networking analyses of MDM+ Drugs with the PD microbiome.**

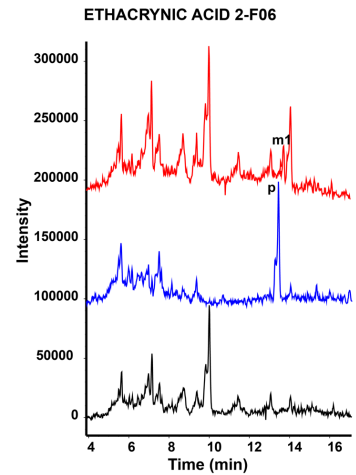
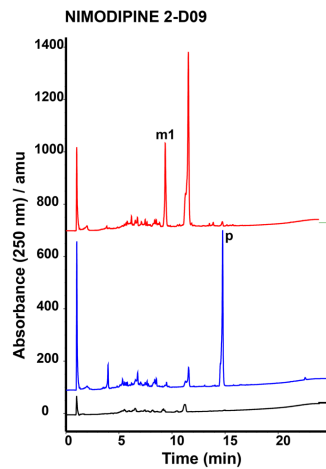
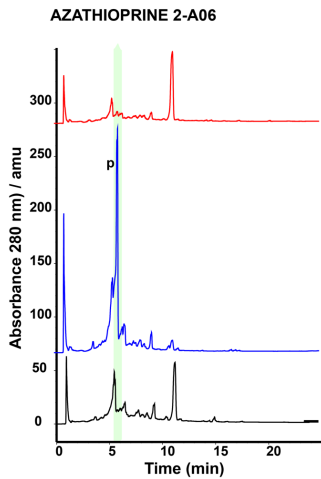
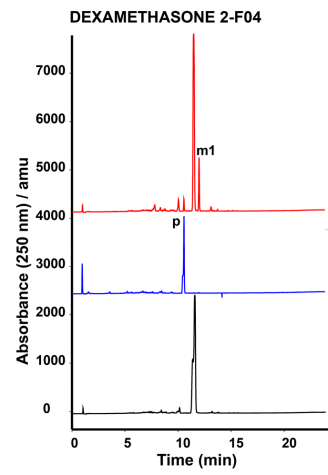
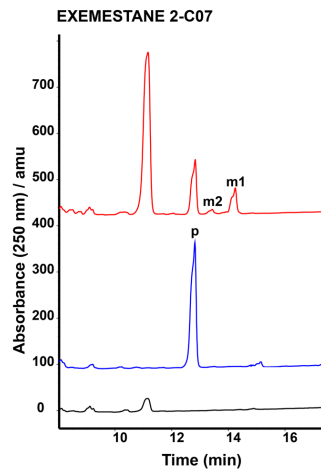
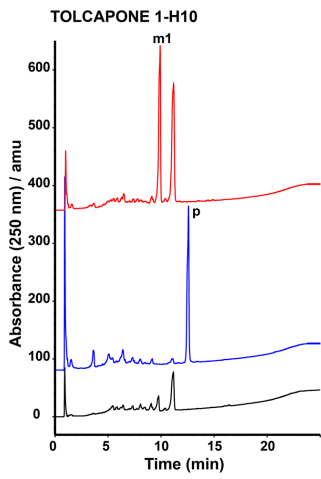
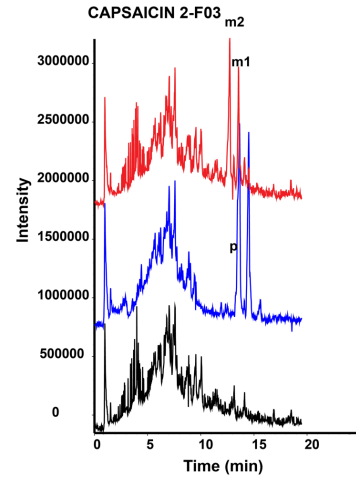
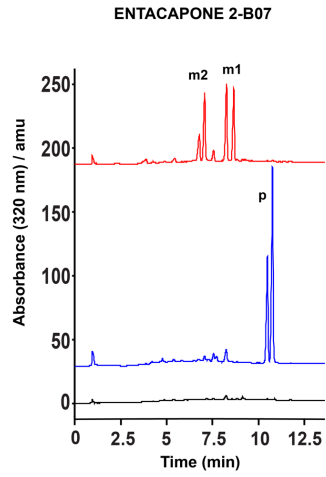
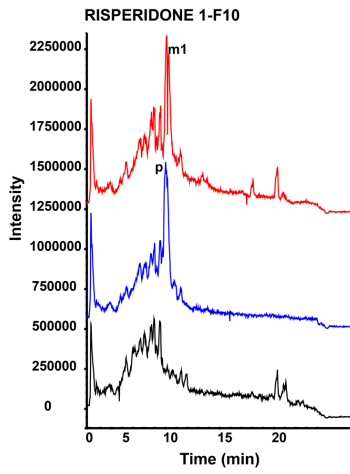
**Contents:**

**A) Chromatograms of MDM+ Drugs**

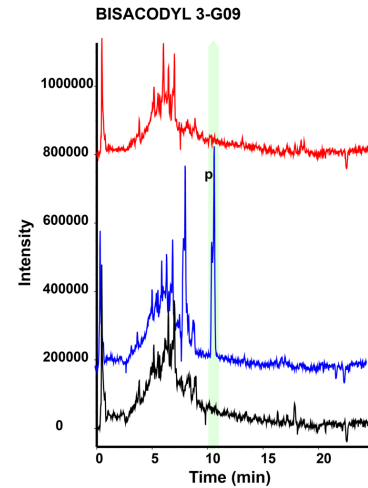
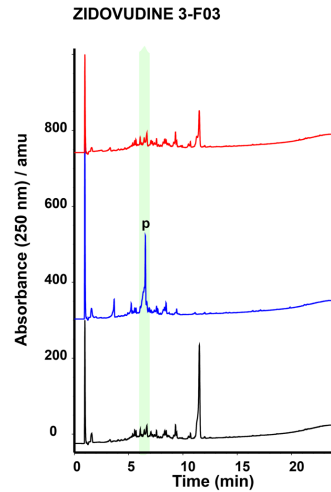
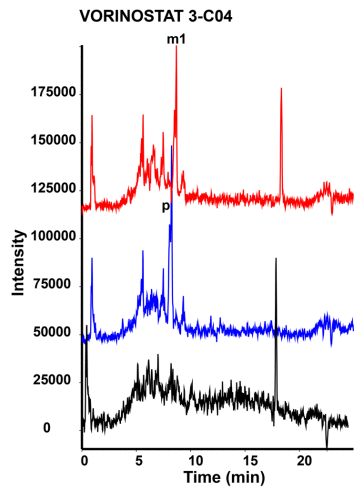
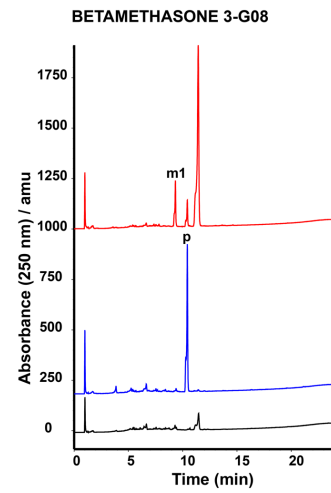
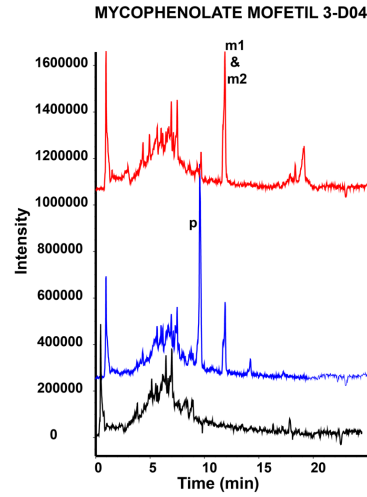
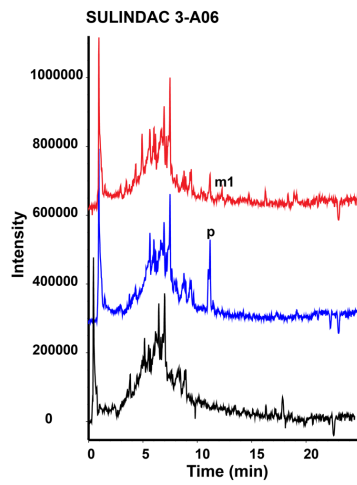
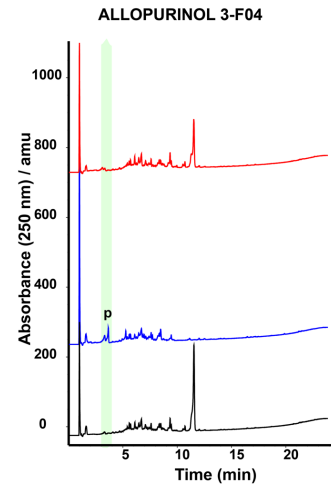
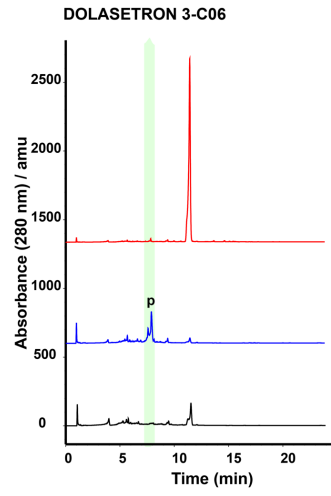
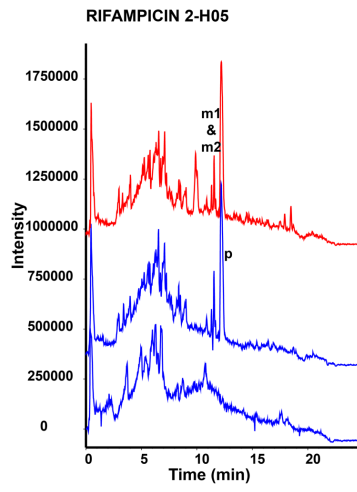
**B) Molecular ion networking analysis of MDM+ Drugs**

**A) Chromatograms of MDM+ Drugs. a-g)** HPLC-MS analyses for each of the identified MDM+ drugs, where three chromatograms are displayed per case: one for the drug incubated with PD mGAM.02 culture (red), a second one for the drug incubated with mGAM.02 broth with no microbiome (blue), and a third one for PD mGAM.02 culture with no drug added (black). “p” indicates parent drug, “m1, m2, etc.” indicate the identified metabolites. HPLC chromatograms at an indicated wavelength, or MS Total Ion Chromatograms, are shown for each case. The name of the analyzed drug and the library well position are indicated above. See **Table S1** and **Data S2** for additional information about the drugs and their identified metabolites, and **STAR Methods** for experimental details.

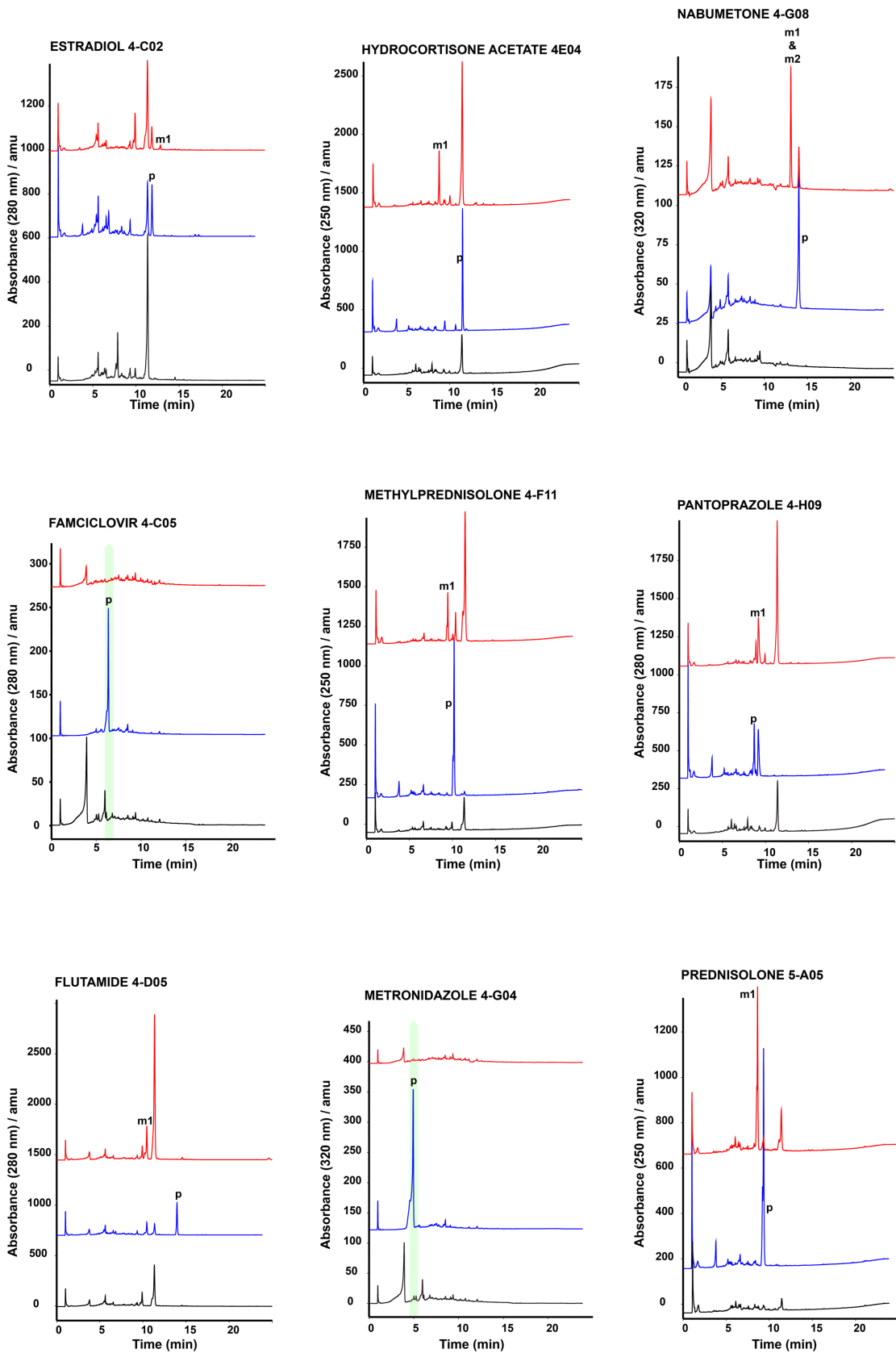
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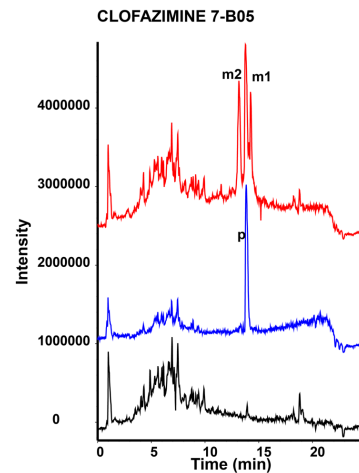
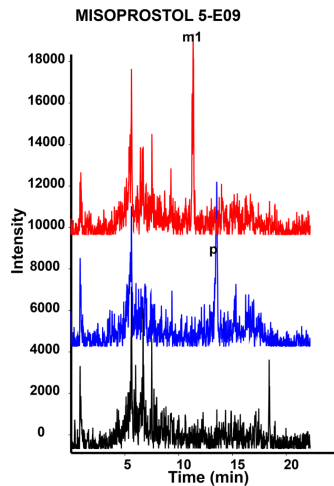
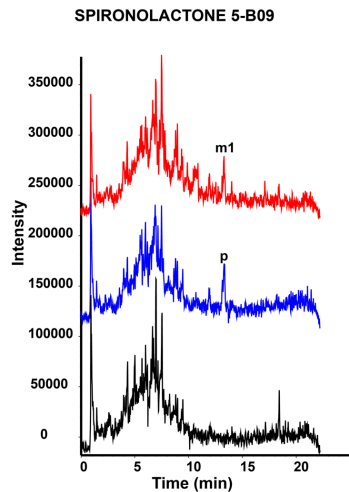
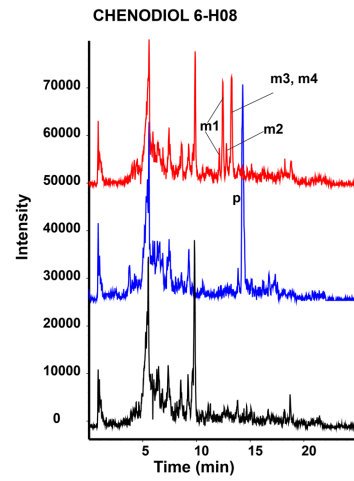
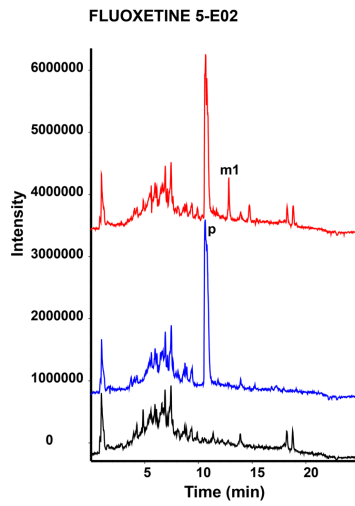
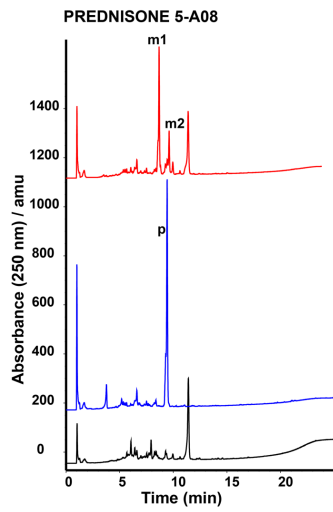
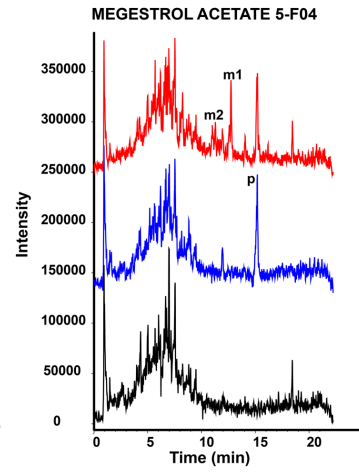
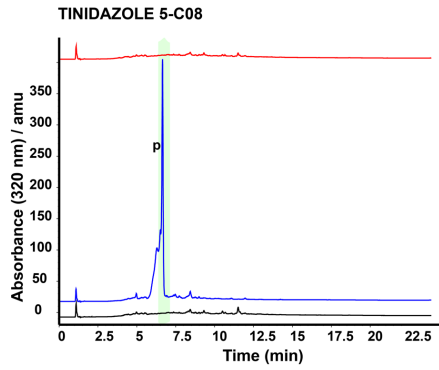
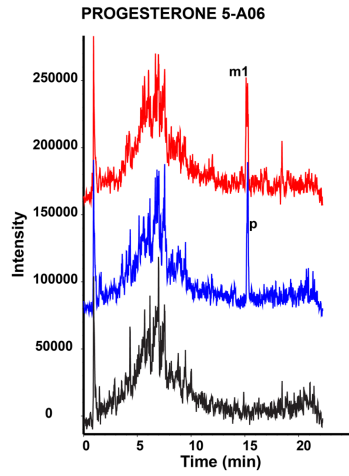
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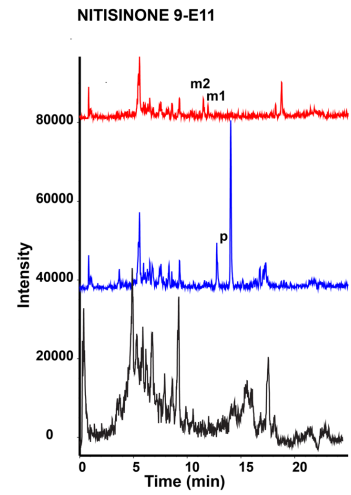
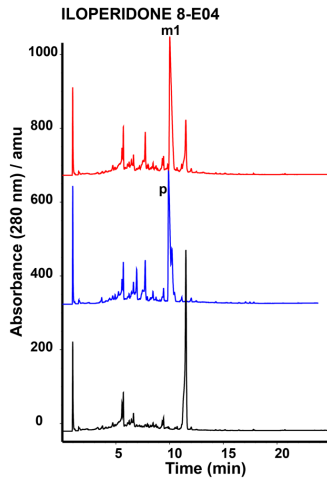
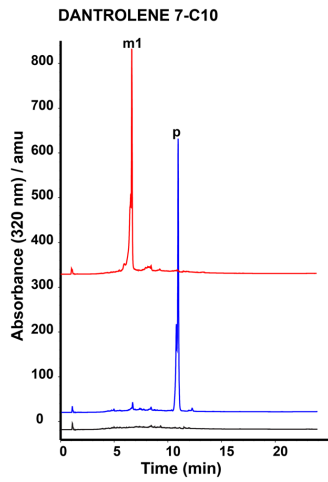
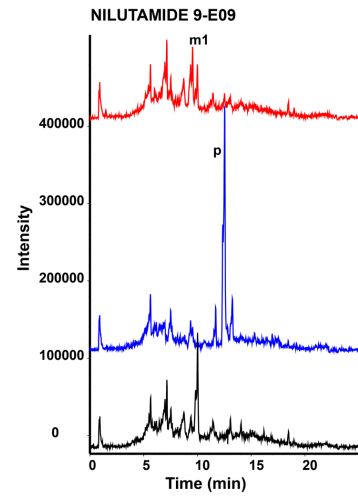
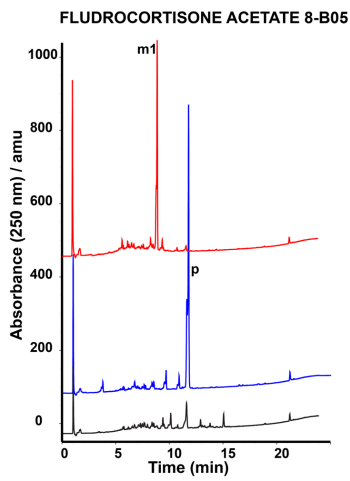
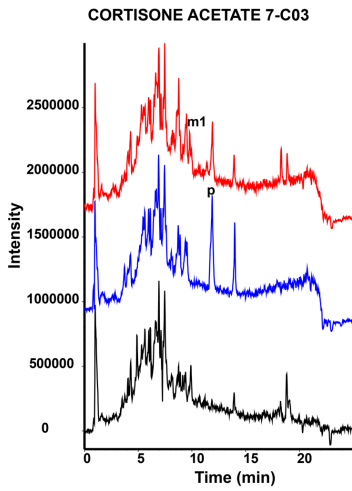
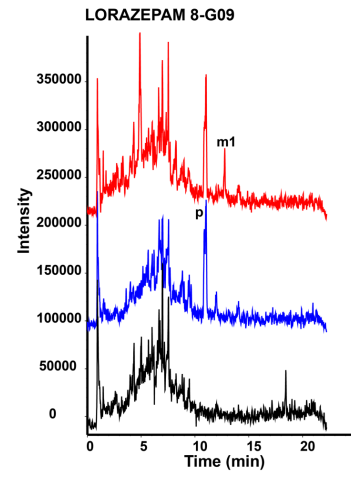
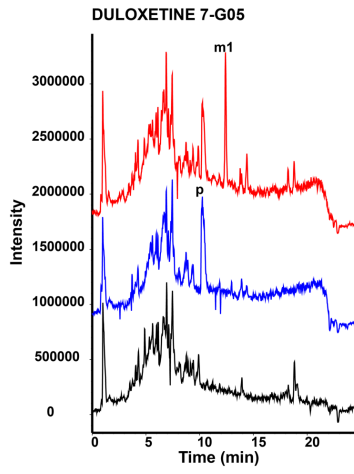
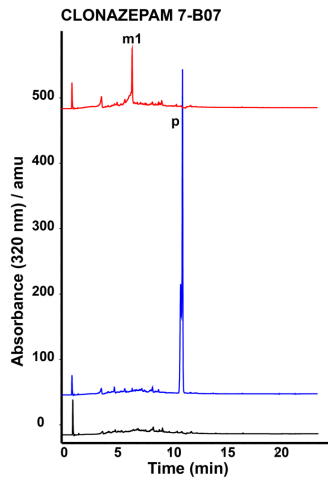


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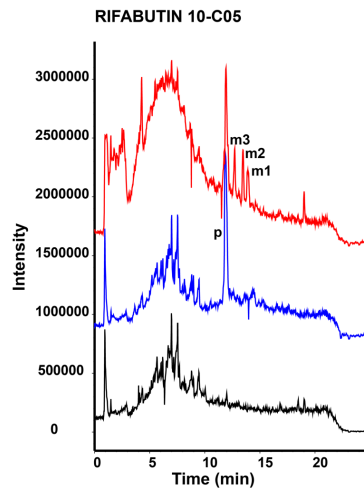
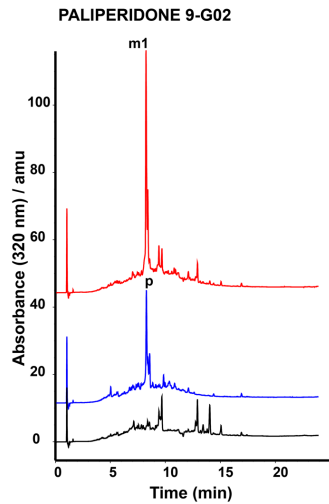
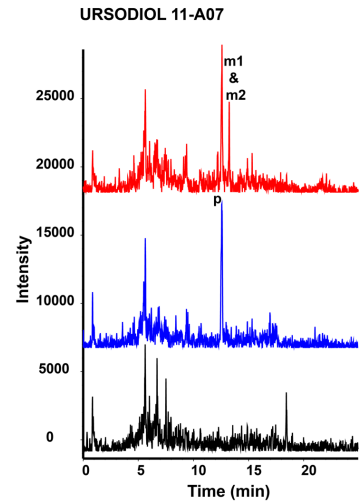
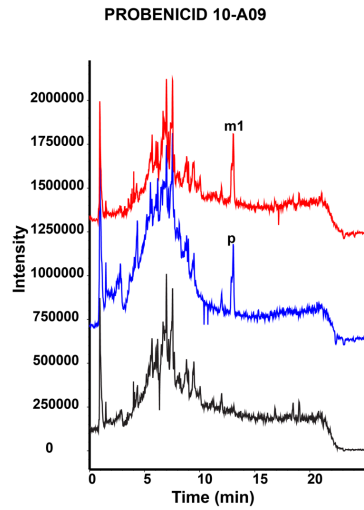
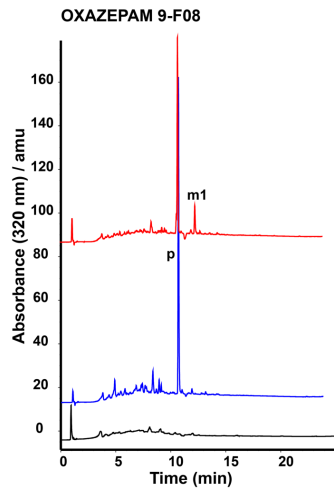
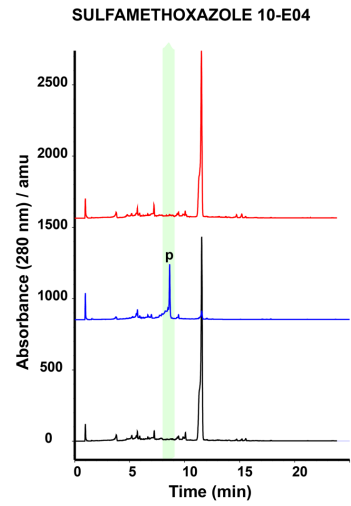
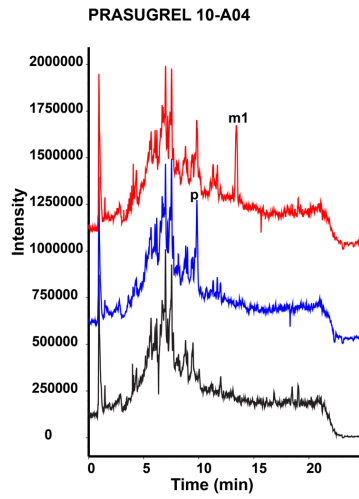
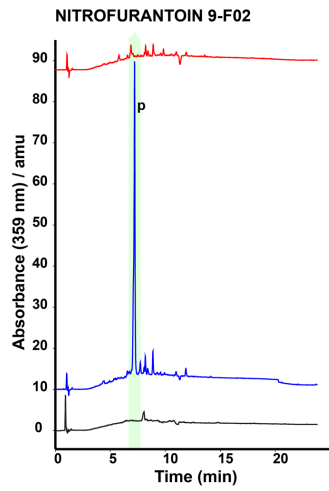


d



**c**

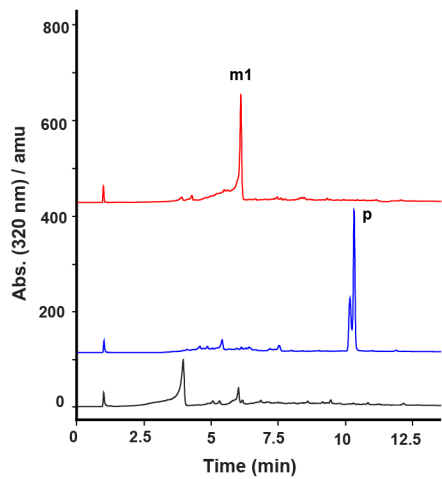
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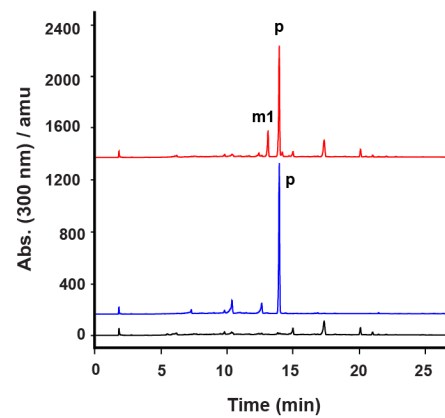


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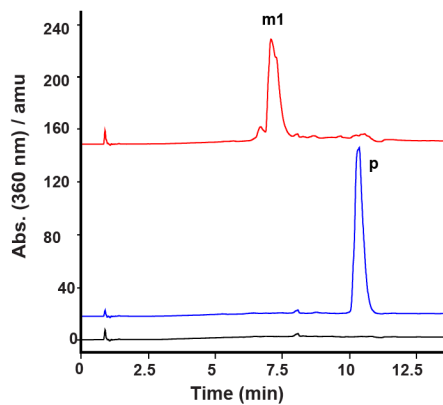
SULFASALAZINE 5-C02



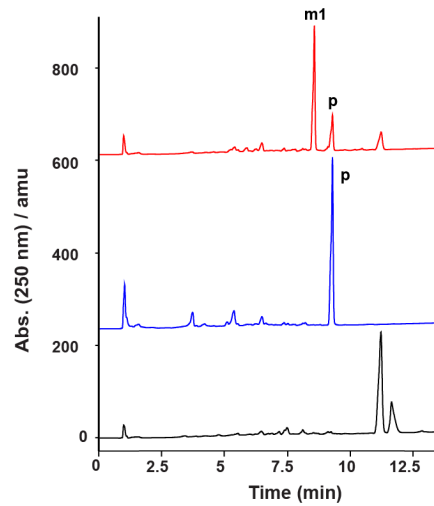
CAPECITABINE 5-G02



NICARDIPINE 1-A11

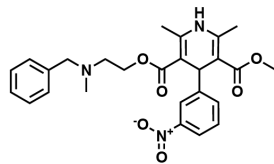


HYDROCORTISONE 4-E03

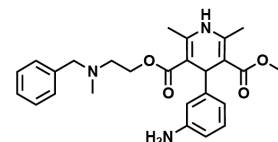
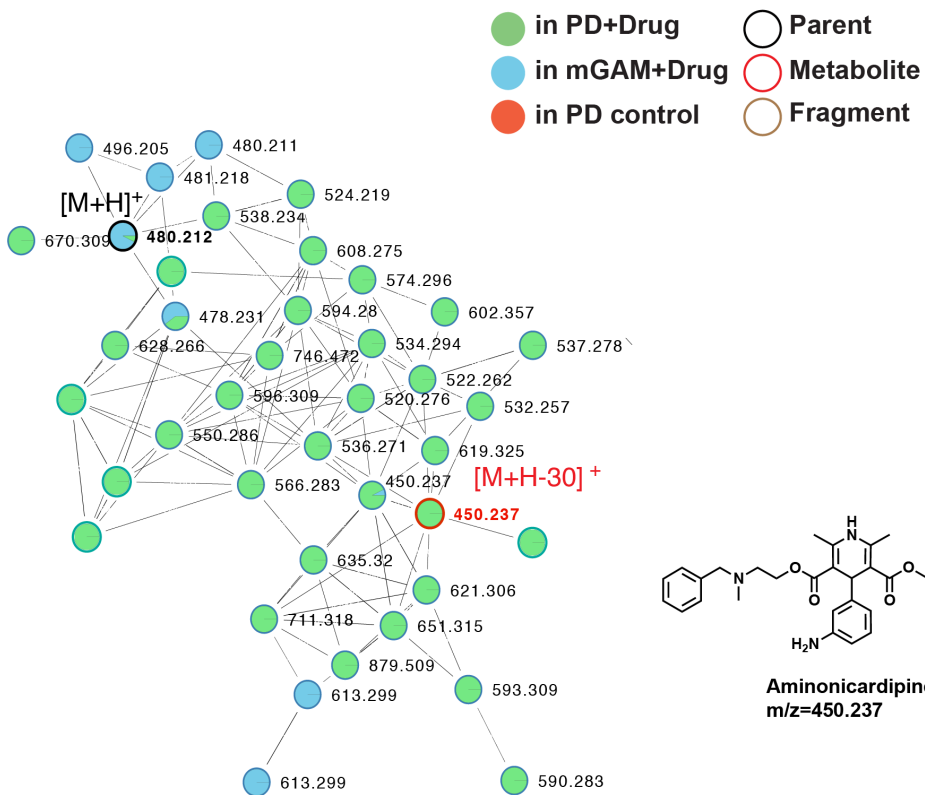


**B) Molecular ion networking analysis of MDM+ Drugs.** Molecular ion networks of MDM+ drugs and their linked metabolites according to the GNPS analysis parameters explained in **STAR Methods**. Parent drugs, identified metabolites, and fragment ions are indicated according to the key on the top right. Presence in the PD mGAM.02 culture with no drug, PD mGAM.02 culture with drug, or mGAM.02 culture with drug and no microbiome is indicated according to the key on the top right. Molecular structures of all drugs and known metabolites are shown. See **Table S1** and **Data S2** for additional information about the drugs and their identified metabolites.

## 1A11-NICARDIPINE

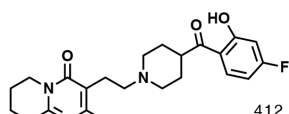


Nicardipine  
m/z=480.212

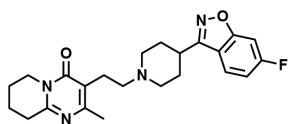
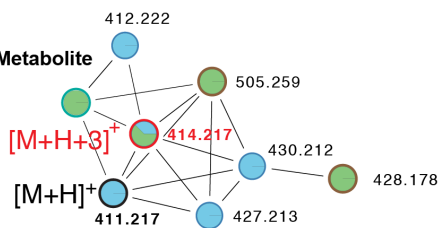


Aminonicardipine  
m/z=450.237

## 1F10-RISPERIDONE

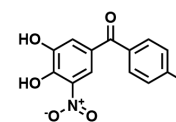


Risperidone Metabolite  
m/z=414.217

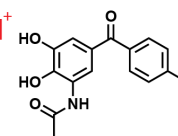
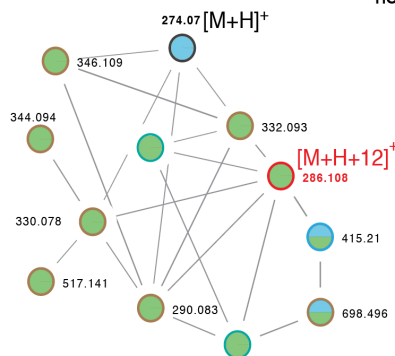


Risperidone  
m/z=411.217

## 1H10-TOLCAPONE

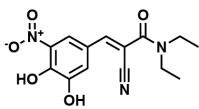


Tolcapone  
m/z=274.070

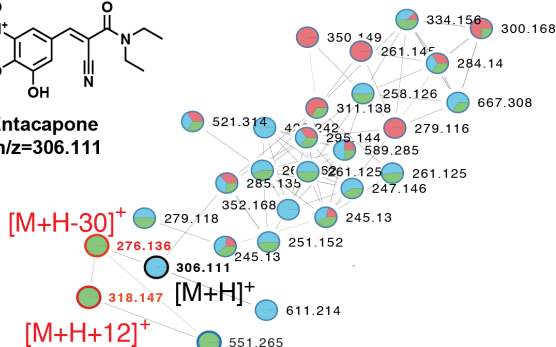


Tolcapone Metabolite  
m/z=286.108

## 2-B07-ENTACAPONE

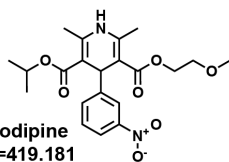


Entacapone  
m/z=306.111

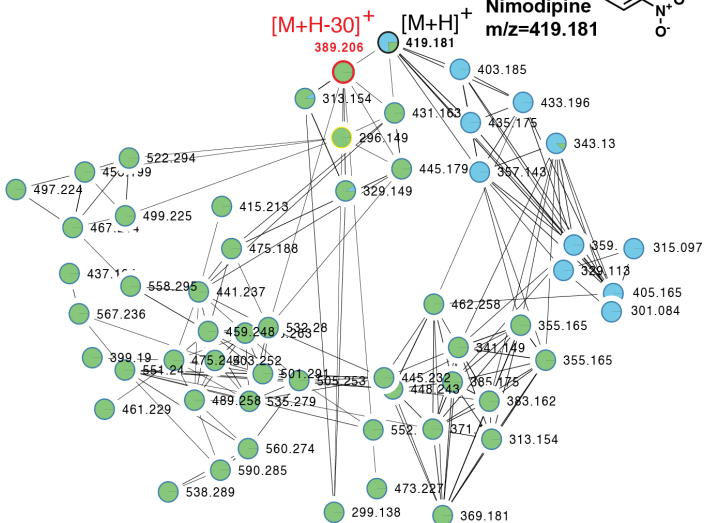


- in PD+Drug
- in mGAM+Drug
- in PD control
- Parent
- Metabolite
- Fragment

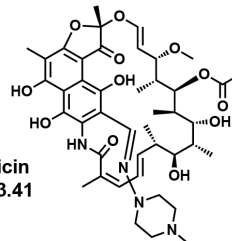
## 2-D09-NIMODIPINE



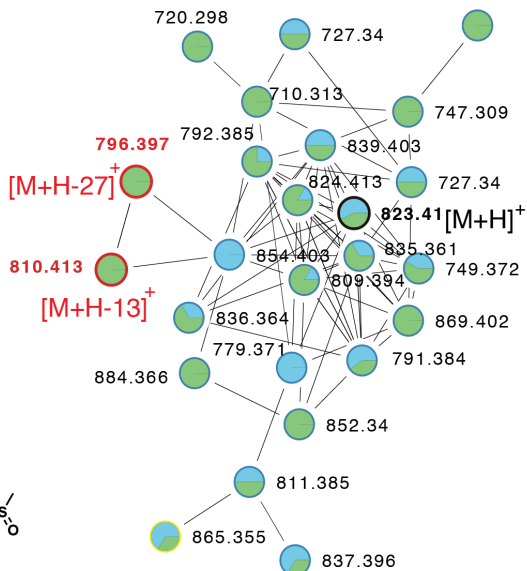
Nimodipine  
m/z=419.181



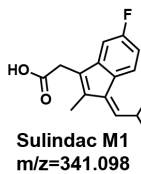
## 2-H05-RIFAMPICIN



Rifampicin  
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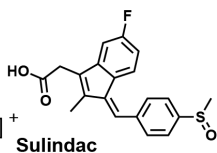


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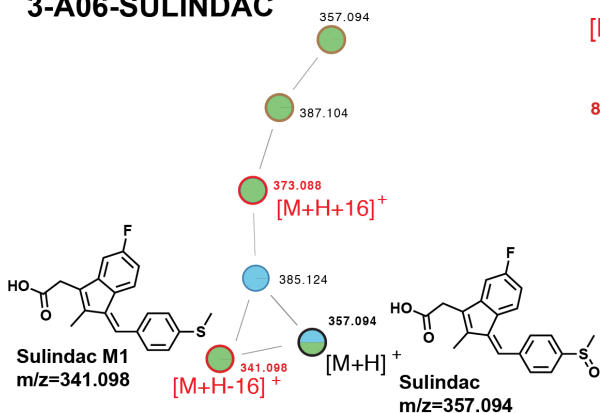
Sulindac M1  
m/z=341.098

[M+H-16]<sup>+</sup>

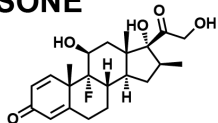


Sulindac  
m/z=357.094

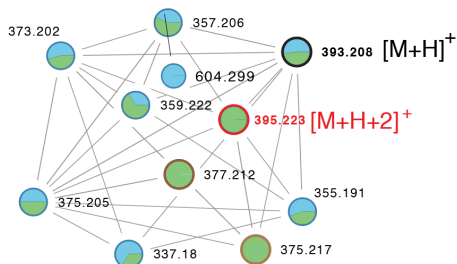
[M+H]<sup>+</sup>



## 2-G08-BETAMETHASONE

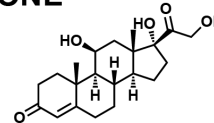


Betamethasone  
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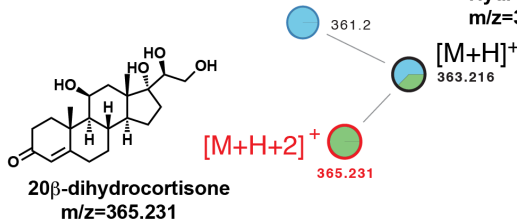


- in PD+Drug
- in mGAM+Drug
- in PD control
- Parent
- Metabolite
- Fragment

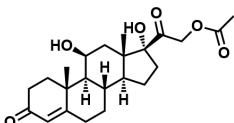
## 4-E03-HYDROCORTISONE



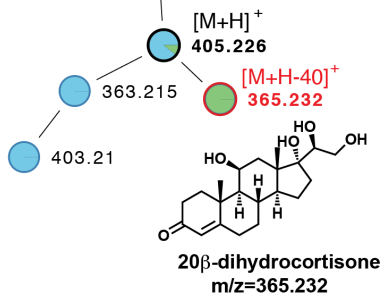
Hydrocortisone  
m/z=363.216



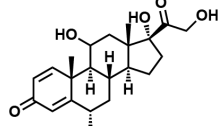
## 2-E04-HYDROCORTISONE ACETATE



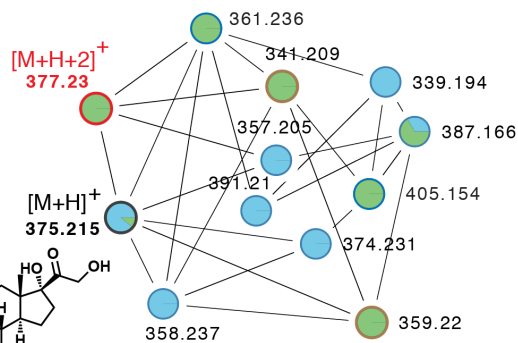
Hydrocortisone acetate  
m/z=405.226



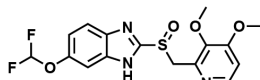
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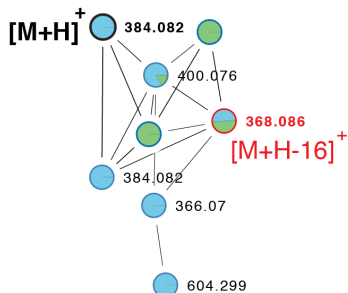
Methylprednisolone  
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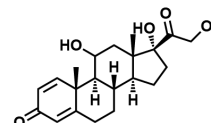
## 4-H09-PANTOPRAZOLE



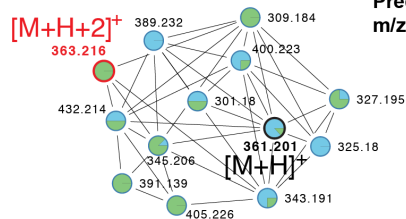
Pantoprazole  
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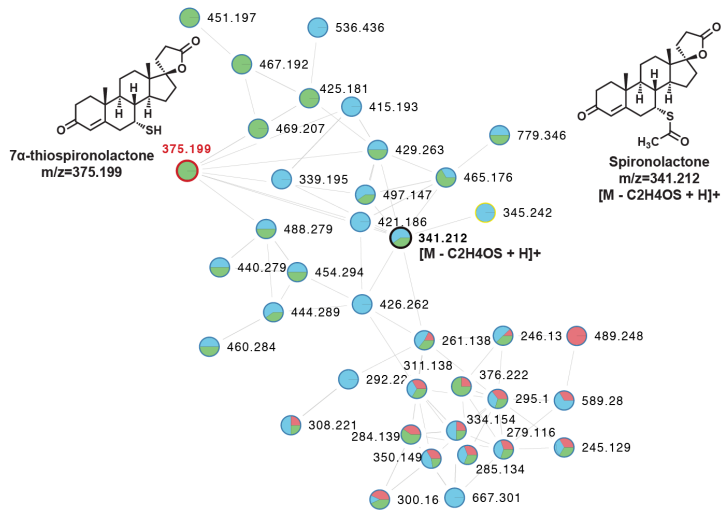
## 5-A05-PREDNISOLONE



Prednisolone  
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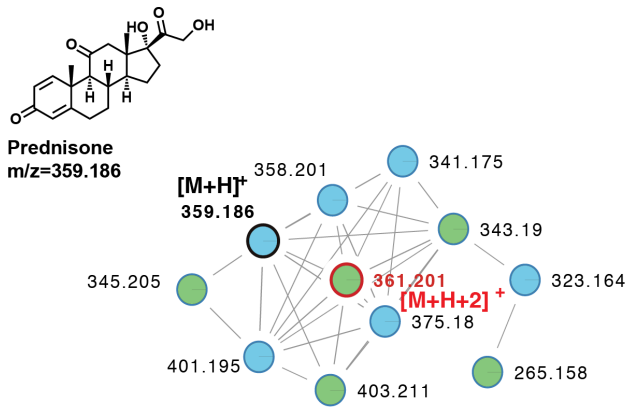


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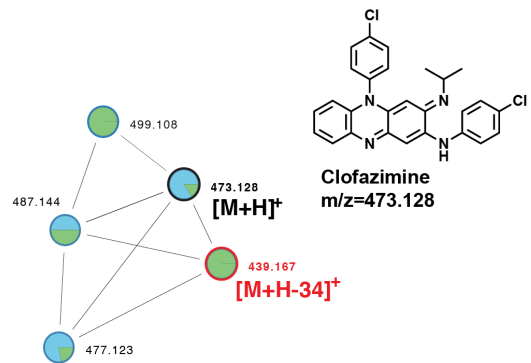


- in PD+Drug
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- Metabolite
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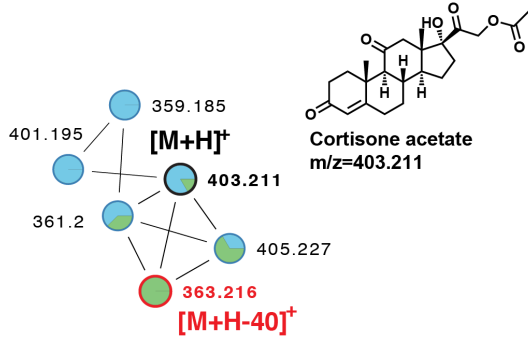
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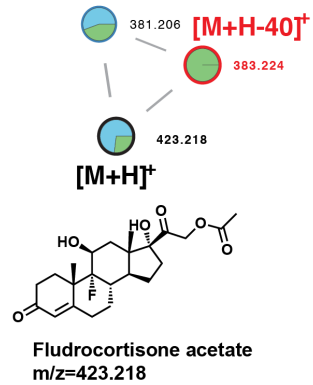
### 7-B05-CLOFAZIMINE



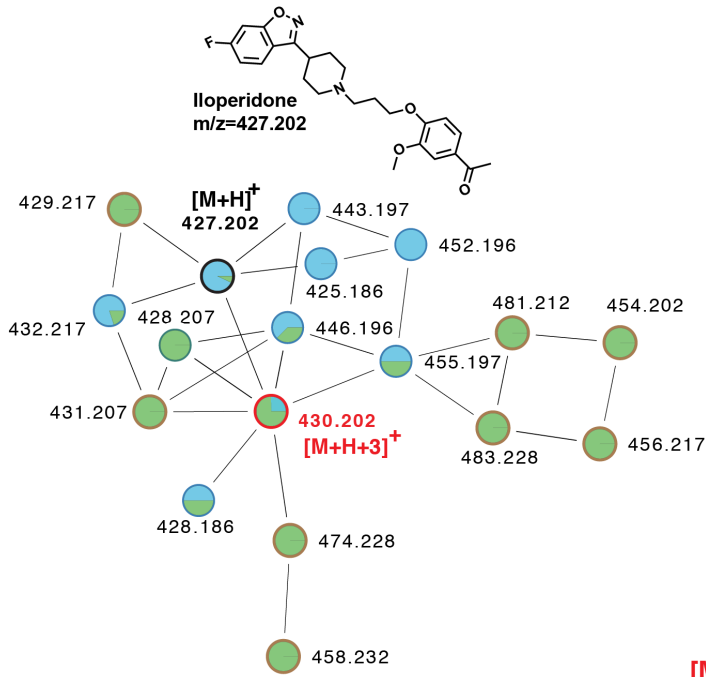
### 7-C03-CORTISONE ACETATE



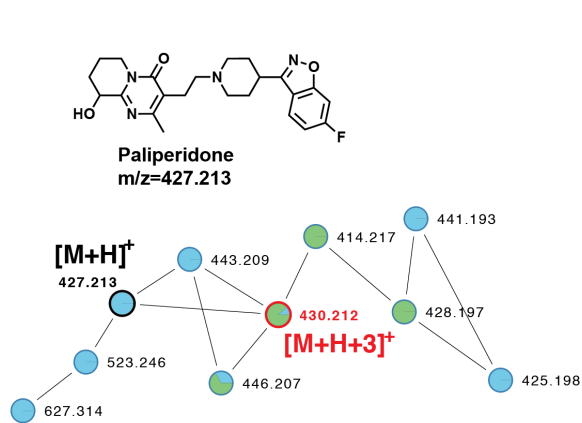
### 8-B05-FLUDROCORTISONE ACETATE



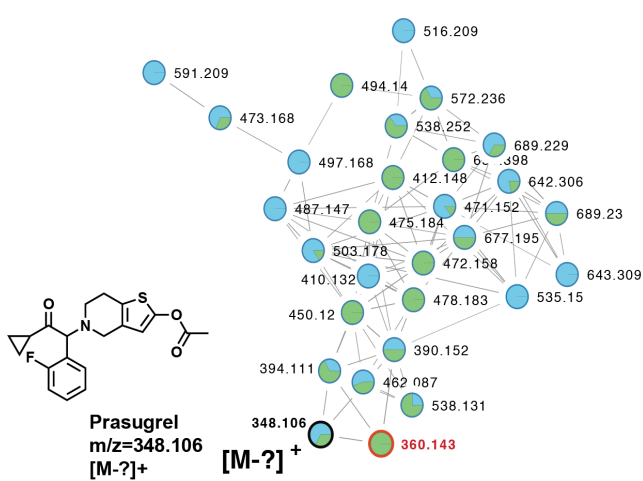
### 8-E04-ILOPERIDONE



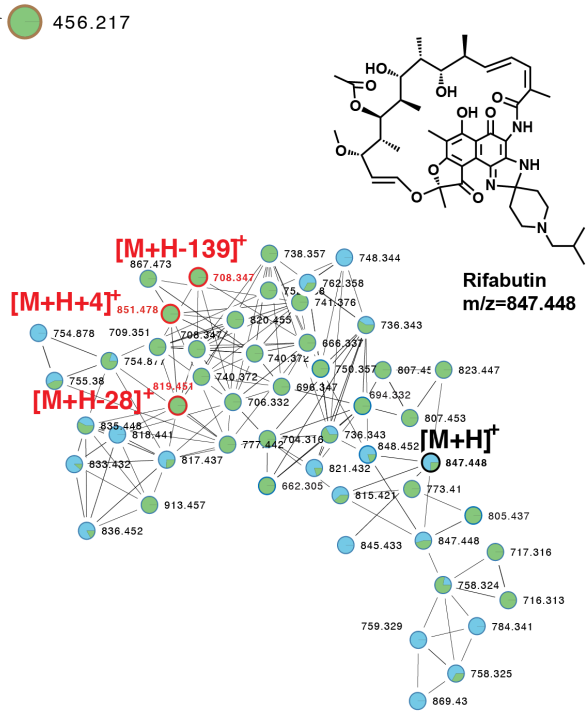
### 9-G02-PALIPERIDONE



### 10-A04-PRASUGREL



### 10-C05-RIFABUTIN



### 5-F04-MEGESTROL ACETATE

