## RECREATIONAL DRUGS:
**AMYL NITRATE, AMPHETAMINES, CANNABIS, COCAINE/CRACK, GHB, HALLUCINOGENS, KETAMINE, HEROIN, NALOXONE**

<table>
<thead>
<tr>
<th>AMYL NITRATE</th>
<th>INSTIs</th>
<th>NNRTIs</th>
<th>PIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Poppers, ames</td>
<td>BICTEGRAVIR (Biktarvy)</td>
<td>ELVITEGRAVIR/COBICISTAT (Stribild, Genvoya)</td>
<td>DORAVIRINE (Pifeltro, Dlstrigo)</td>
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<tr>
<td>AMPHETAMINES</td>
<td>• MDMA/ecstasy, crystal, molly</td>
<td>Potential for ↑ recreational drug</td>
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<tr>
<td>CANNABIS</td>
<td>Marijuana, weed</td>
<td></td>
<td></td>
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<tr>
<td>COCAINE</td>
<td>• crack, base,</td>
<td>Potential for ↑ recreational drug</td>
<td>Potential QT prolongation (rilpivirine)</td>
</tr>
<tr>
<td>GAMMA-HYDROXYBUTYRATE</td>
<td>• GHB, date rape drug, Geeb, liquid X</td>
<td>Potential for ↑ recreational drug</td>
<td>Potential for ↑ levels of hepatotoxic metabolite</td>
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</tbody>
</table>

Boosted with ritonavir (Norvir) or cobicistat
ATAZANAVIR (Reyataz, Evotaz)
DARUNAVIR (Prezista, Prezcobix, Syntuza)
LOPINAVIR (Kaletra)
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| • BICTEGRAVIR (Biktarvy)  
• DOLUTEGRAVIR (Tivicay, Triumeq, Juluca)  
• RALTEGRAVIR (Isentress)  
• ELVITEGRAVIR/COBICISTAT (Stribild, Genvoya)  | • DORAVIRINE (Pifeltro, Delstrigo)  
• RILPIVIRINE (Edurant, Complera, Odefsey, Juluca)  | • EFAVIREN (Sustiva, Atripla)  
• ETRA VIRINE (Intelence)  
• NEVIRAPINE (Viramune)  
| Boosted with ritonavir (Norvir) or cobicistat  
• ATAZANAVIR (Reyataz, Evotaz)  
• DARUNAVIR (Prezista, Prezobix, Symtuza)  
• LOPINAVIR (Kaletra) |

**HALUCINOGENS**

- LSD, acid  
- PCP, angel dust  
- Potential for ↑ recreational drug  
- Potential for ↓ recreational drug  
- Potential for ↑ recreational drug

**KETAMINE**

- Special K, vitamin K, KitKat  
- Potential for ↑ recreational drug  
- Potential for ↓ recreational drug  
- Potential for ↑ recreational drug

**HEROIN**

- Smack, H, tar, junk  
- Potential for ↑ recreational drug  
- Potential for ↓ morphine (converted from heroin) with efavirenz  
- Potential for ↑ recreational drug

**NALOXONE**

- Narcan  
- Ritonavir-boosted PIs: potential for ↓ naloxone  
- Cobicistat-boosted PIs

**Legend:**
- No dose adjustment required.
- Use combination with caution. Adjustment in drug dose or frequency or additional/more frequent monitoring may be required. May wish to consult with a pharmacist knowledgeable in HIV drug interactions.
- Contraindicated/avoid combination.
## Mechanism of Drug Interactions, Management and Monitoring

<table>
<thead>
<tr>
<th>Class</th>
<th>Mechanism of Interaction</th>
<th>Main Interacting ARVs</th>
<th>Management</th>
<th>Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stimulants:</strong> Cocaine, amphetamines, GHB</td>
<td>Inhibition of CYP3A4 (cocaine) and CYP 2D6 (amphetamine, GHB?) leading to increased levels of stimulant</td>
<td>Protease Inhibitors (PI) (with ritonavir or cobicistat) &amp; Elvitegravir/cobicistat</td>
<td>Warn patient of potential for unpredictable increased levels of the recreational substance and provide harm reduction advice</td>
<td>Toxicity: Dehydration, dry mouth, teeth grinding, tense jaw, tachycardia. GHB: seizures, bradycardia, loss of consciousness</td>
</tr>
<tr>
<td><strong>Hallucinogens:</strong> LSD, PCP (angel dust)</td>
<td>Mechanism unclear but potential for inhibition or induction of drug metabolism</td>
<td>PIs &amp; elvitegravir/cobicistat may increase hallucinogen concentrations Enzyme inducing NNRTIs (efavirenz, etravirine, nevirapine) may decrease levels</td>
<td>Warn patient of unpredictable increased levels of hallucinogen and provide harm reduction advice</td>
<td>Toxicity: Hallucinations, psychosis, flashbacks, seizures, hypertension.</td>
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<tr>
<td><strong>Ketamine</strong></td>
<td>Mechanism unclear but potential for inhibition or induction of drug metabolism</td>
<td>PIs &amp; elvitegravir/cobicistat may increase ketamine Enzyme inducing NNRTIs (efavirenz, etravirine, nevirapine) may decrease levels</td>
<td>Warn patient of unpredictable increased levels and provide harm reduction advice</td>
<td>Toxicity: Nausea, vomiting, SOB, loss of coordination, cognitive decline</td>
</tr>
<tr>
<td><strong>Heroin</strong></td>
<td>Converted to morphine, which is glucuronidated (UGT2B7&gt;UGT1A1) and a substrate of Pgp</td>
<td>PIs &amp; elvitegravir/cobicistat may increase morphine Efavirenz may induce UGT and decrease morphine</td>
<td>Warn patient of unpredictable increased levels and provide harm reduction advice</td>
<td>Toxicity: decreased level of consciousness, miosis, respiratory depression. Acute symptoms may be reversed with naloxone.</td>
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<tr>
<td><strong>Naloxone</strong></td>
<td>Substrate of UGT2B7</td>
<td>Ritonavir-boosted PIs may induce UGT and decrease naloxone</td>
<td>Potential for decreased duration of naloxone efficacy</td>
<td>Monitor for duration of naloxone efficacy.</td>
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</tbody>
</table>