

Additional file 2. **Description of thirty HAAs and Caffeine structure used as pipeline input.**
 This pdf file describes the SMILES formula and 2D-structure of each of the thirty HAAs and the Caffeine studied in the paper.

Xenobiotic Name	SMILES formula	2D Structure
1,5,6-TMIP	<chem>N=1C=2C=C(C(=CC2N(C1N)C)C)C</chem>	
1,6-DMIP	<chem>N=1C=2C=CC(=CC2N(C1N)C)C</chem>	
3,5,6-TMIP	<chem>N=1C=2C=C(C(=NC2N(C1N)C)C)C</chem>	
4-CH2OH-8-MeIQx	<chem>OCC1=CC=2N=CC(=NC2C=3N=C(N)N(C31)C)C</chem>	
4,7,8-TriMeIQx	<chem>N=1C=2C=C(C3=C(N=C(N)N3C)C2N=C(C1C)C)C</chem>	
4,8-DiMeIQx	<chem>N1=CC(=NC2=C1C=C(C3=C2N=C(N)N3C)C)C</chem>	
4'-OH-PhIP	<chem>OC=1C=CC(=CC1)C=2C=NC=3N=C(N)N(C3C2)C</chem>	
6,7-DiMeIgQx	<chem>N=1C=2C=C3N=C(C(=NC3=CC2N(C1N)C)C)C</chem>	
7-MeIgQx	<chem>N1=CC(=NC2=CC3=C(N=C(N)N3C)C=C12)C</chem>	
7,8-DiMeIQx	<chem>N=1C=2C=CC3=C(N=C(N)N3C)C2N=C(C1C)C</chem>	
7,9-DiMeIgQx	<chem>N1=CC(=NC=2C1=CC=3N=C(N)N(C3C2C)C)C</chem>	
A��C	<chem>N=1C(N)=CC=C2C1NC=3C=CC=CC32</chem>	
AMPNH	<chem>N=1C=CC=2C=3C=CC=CC3N(C4=CC=C(N)C(=C4)C)C2C1</chem>	
APNH	<chem>N=1C=CC=2C=3C=CC=CC3N(C4=CC=C(N)C(=C4)C)C2C1</chem>	
GluP1	<chem>N1=C(N)C=CC=2N=C3C(=CC=CN3C12)C</chem>	
GluP2	<chem>N1=C(N)C=CC=2N=C3C=CC=CN3C12</chem>	
Harman	<chem>N=1C=CC=2C=3C=CC=CC3NC2C1C</chem>	
IFP	<chem>N1=C2N=C(N)N(C2=CC=3OC(=CC13)C)C</chem>	
IgQx	<chem>N1=CC=NC2=CC3=C(N=C(N)N3C)C=C12</chem>	
IQ	<chem>N1=CC=CC2=C1C=CC3=C2N=C(N)N3C</chem>	
IQ[4,5-b]	<chem>N1=C2N=C(N)N(C2=CC3=CC=CC=C13)C</chem>	
IQx	<chem>N1=CC=NC2=C1C=CC3=C2N=C(N)N3C</chem>	
MeA��C	<chem>N=1C(N)=C(C=C2C1NC=3C=CC=CC32)C</chem>	
MeIQ	<chem>N1=CC=CC2=C1C=C(C3=C2N=C(N)N3C)C</chem>	
MeIQx	<chem>N1=CC(=NC2=C1C=CC3=C2N=C(N)N3C)C</chem>	
NorHarman	<chem>N=1C=CC2=C(C1)NC=3C=CC=CC32</chem>	
PheP1	<chem>N1=CC(=CC=C1N)C2=CC=CC=C2</chem>	
PhIP	<chem>N1=CC(=CC2=C1N=C(N)N2C)C=3C=CC=CC3</chem>	
TrP1	<chem>N=1C(N)=C(C=2NC=3C=CC=CC3C2C1C)C</chem>	
TrP2	<chem>N1=C(N)C=C2NC=3C=CC=CC3C2=C1C</chem>	
Caffeine	<chem>CN1C=NC2=C1C(=O)N(C(=O)N2C)C</chem>	