

Supplemental Material

Journal: European Journal of Drug Metabolism and Pharmacokinetics

Cytochrome P450 enzymes inhibition and herb-drug interaction potential of medicinal plants extracts used for management of diabetes in Nigeria

Ogochukwu Amaeze^{1a}, Heather Eng², Lauren Horlbogen², Hang Ma¹, Manthena V.S.

Varma², Angela Slitt^{1*}

¹Department of Biomedical and Pharmaceutical Sciences, College of Pharmacy, University of Rhode Island, Kingston, Rhode Island, USA

²Pharmacokinetics, Dynamics and Metabolism, Pfizer Inc., Groton, Connecticut, USA

Corresponding Author contact information:

Name: Angela Slitt

Telephone number: +1 401 269 6957

Email: aslitt@uri.edu

Physical address: Department of Biomedical and Pharmaceutical Sciences, University of Rhode Island,
7 Greenhouse Rd, Kingston Rhode Island, RI 02881, USA

Table 1 Details of the medicinal plants used in the study

Latin name	Family	Common/ Local names	Plant part used	Voucher number
<i>Picralima nitida</i> (Stapf)	Apocynaceae	Picralima/ Osi-igwe, abeere	Seeds	FHI 111214
T.Durand & H.Durand				
<i>Ocimum gratissimum</i> Linn.	Lamiaceae	African basil/ Nchuanwu, efirin	Leaves	FHI 111215
<i>Vernonia amygdalina</i> Delile	Asteraceae	Bitter leaf/ Onugbu, ewuro	Leaves	FHI 111216
<i>Azadirachta indica</i> A.Juss	Meliaceae	Neem/ Dogonyaro	Leaves	FHI 111217
<i>Moringa oleifera</i> Lam.	Moringaceae	Horseradish, Okwe oyibo, ewe-igbale	Leaves	FHI 111218

Table 2: Experimental details of the time-dependent inhibition assay

CYP enzyme	Probe substrate (concentration μM)/ concentration in activity incubation (μM)	Metabolite	Internal standard (concentration ng/mL)	Positive control (μM)
1A2	Phenacetin (30.0)/ 200	Acetaminophen	[$^2\text{H}_7$]-Acetaminophen (10)	Furafylline (0.1)
2C8	Amodiaquine (1.66)/ 16.6	N-desethylamodiaquine	[$^2\text{H}_5$]N-desethylamodiaquine (10)	Gemfibrozil glucuronide (6)
2C9	Diclofenac (6.45)/ 64.5	4'-OH Diclofenac	[$^{13}\text{C}_6$]-4'-OH-diclofenac (100)	Tienilic acid (0.2)
2C19	S-mephenytoin (39.3)/ 393	4'-OH-S-mephenytoin	[$^2\text{H}_3$]4'-OH-S-mephenytoin (100)	Ticlopidine (0.9)
2D6	Dextromethorphan (1.81)/ 18.1	Dextrorphan	[$^2\text{H}_3$]-dextrorphan (10)	Paroxetine (0.1)
3A4	Midazolam (2.09)/ 20.9	1'-OH-midazolam	[$^2\text{H}_4$]1'-OH-midazolam (10)	Verapamil (1)