Experiment Number: S0577
Route: Gavage, IV
Species/Strain: Mouse/B6C3F1

Toxicokinetics Data Summary
Test Compound: Methyleugenol
CAS Number: 93-15-2

Date Report Requested: 12/27/2016
Time Report Requested: 11:27:11
Lab: Battelle Columbus

Male

	Treatment Groups (mg/kg)			
	25 [a]	**50 [a]**	**75 [a]**	**25 IV [b]**
	Plasma			
C_{max} (ug/mL)	0.382	1.40	3.10	18.2
T_{max} (minute)	5	5	5	2
$t_{1/2}$ (minute)	30	30	30	15
AUC_{0-t} (ug/mL*min)	4.91	27.4	48.4	116.4
F (percent)	4.2	11.8	13.9	

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	Female			
	Treatment Groups (mg/kg)			
	25 [a]	50 [a]	75 [a]	25 IV [b]
	Plasma			
C_{max} (ug/mL)	0.123	1.01	4.39	9.34
T_{max} (minute)	15	5	5	2
$t_{1/2}$ (minute)	30	30	30	15
AUC_{0-t} (ug/mL*min)	3.27	25.0	605	106.5
F (percent)	3.1	11.7	18.9	

LEGEND

Data are displayed as mean values

MODELING METHOD & BEST FIT MODEL

[a] AUC was calculated using the trapezoid rule using Sigma Plot Version 5.0. Reported toxicokinetic parameters, ie Cmax, Tmax, and half-life, are observed values only, no attempt was made to model the plasma concentration versus time profiles. Half-life is the half-life of elimination; The concentration time profiles were biphasic with an initial rapid decreasing phase followed by a terminal slower decreasing phase. The initial phase indicates that methyleugenol undergoes distribution to peripheral compartment(s). No absorption phase could be characterized indicating that the rate of absorption was very rapid. Elimination was rapid (half-life is 30 minutes for all oral groups) and there is no evidence of saturation of elimination for methyleugenol.

[b] AUC was calculated using the trapezoid rule using Sigma Plot Version 5.0. Reported toxicokinetic parameters, ie Cmax, Tmax, and half-life, are observed values only, no attempt was made to model the plasma concentration versus time profiles. Half-life is the half-life of elimination; The concentration time profile appears to be a biphasic curve with a bend occurring at approximately 5 minutes suggesting that these data are best characterized by a two compartment open model, with an initial tissue distribution phase and a terminal linear elimination phase.

ANALYTE

Methyleugenol

TK PARAMETERS

C_{max} = Observed or Predicted Maximum plasma (or tissue) concentration

T_{max} = Time at which C_{max} predicted or observed occurs

$t_{½}$ = $Lambda_z$ half-life, $t_{1/2}$, the terminal elimination half-life based on non-compartmental analysis

AUC_{0-t} = Area under the plasma concentration versus time curve, AUC, from time t_i (initial) to t_f (final), AUC_{last}

F = Bioavailability, absolute bioavailability

** END OF REPORT **