

**Supplemental Table S6.** Comparison of Spearman's correlation coefficient ( $\rho$ ) between  $\Delta E_{A-B}$  and  $S_{A/B}$  for the dosage sensitive versus dosage insensitive ortholog sets or for the complex versus non-complex ortholog sets in flies. *D. melanogaster* - *D. pseudoobscura* ortholog sets were used. Expression levels were estimated in L3 larva from both species.

Categories of ortholog sets	$\rho$ ( <i>P</i> -value)	N
<b>Dosage sensitive vs. dosage insensitive</b>		
All <sup>a</sup>	-0.482 (< 10 <sup>-26</sup> )	441
Dosage sensitive	-0.567 (< 10 <sup>-19</sup> )	226
Dosage insensitive	-0.399 (< 10 <sup>-8</sup> )	215
<b>Complex vs. non-complex</b>		
All	-0.412 (< 10 <sup>-33</sup> )	799
Complex	-0.631 (< 10 <sup>-21</sup> )	127
Non-complex	-0.364 (< 10 <sup>-26</sup> )	672

<sup>a</sup> Only ortholog sets defined as "dosage sensitive" or "dosage insensitive" were included.