Presentation title: Quantification of Bisphenol A in Drosophila Melanogaster Larvae by High Performance Liquid Chromatography-tandem Mass Spectrometry

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 Drosophila Melanogaster (D. melanogaster), commonly known as the fruit fly, has been used as a model organism to assess the impacts of endocrine disrupting chemicals on human development due to their relatively simple brain structure and measurable behaviors. In most experimental designs, it is the chemical exposure that is known, as opposed to the concentration of the chemical of interest in the organism itself. Here, we describe the methodology for the quantification of Bisphenol A (BPA) in *D. Melanogaster* larvae. Briefly, the methodology includes a simple extraction with methanol that is brought to dryness and further reconstituted with 2% ammonium hydroxide and methanol. High Performance Liquid Chromatography tandem Mass Spectrometry (HPLC MS/MS) with electrospray ionization was operated in negative mode and used in the separation and quantification of BPA. An isotopically-labelled internal standard was used for quantification and a linear range of nominally 5-5000 ng BPA/mL extract (R2 = 0.999) was achieved with this method. Peak shape, signal to noise and qualifier/quantifier ratios were monitored to confirm the identity of the BPA peak. A preliminary method detection limit of 8 ng BPA/sample was achieved with this method. Calculated accuracies of matrix spikes, lab spikes, and low level lab spikes were between 94-125%. This presentation will further discuss the methodology used to determine the concentration of BPA found in the exposed *D. melanogaster* larvae.