PW1 ESI-FTICR-MS Analysis of Larvae from the Marine Sponge *Luffariella variabilis*.

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ESI-FTICR-MS analysis of a single larva showed the presence of manoalide monoacetate.

The Great Barrier Reef sponge *Luffariella variabilis* (Poléjaeff 1884) produces a range of potent anti-inflammatory secondary metabolites, including manoalide and manoalide monoacetate. Production of these compounds is 'hardwired' at the population level and there is little variation in space and time over metres to tens of kilometres in the Palm Islands, Queensland, Australia with manoalide monoacetate consistently being the most abundant compound. *L. variabilis* is gonochoristic and asynchronously broods embryos over six months culminating in larval release in November and December. The larvae are ~300 – 400 mm in length and ~200mm wide. In this study we analysed the larvae of *L. variabilis* by ESI-FTICR-MS for the presence of manoalide monoacetate. We were able to detect its presence in individual larva, indicating that there is a vertical transmission of these secondary metabolites.