

TASKS

1. *Erylus* collection in the Portuguese coast

Collection of *Erylus* specimens from the Portuguese coast. This work will include a complete taxonomic identification of the collected samples in order to avoid misclassification. As a side outcome, a reference collection of Portuguese *Erylus* spp. will be done.

2. Extract production

From the biological material, crude extracts will be prepared, fractioned by HPLC. Fractions tested positive as IDO inhibitors will be evaluated by LC-MS, to rule out possible dereplication.

3. High throughput screening for IDO inhibitors

The screening will be performed using the BIOALVO high-throughput screening technology through its BLOCKADE application. Bioassay-guided fractionation of the positive fraction extract will be performed at a preparative scale in order to isolate the active compound(s) with measurable yield.

4. Isolation of sponge associated bacteria

Many of the sponge-derived natural products (including some already in drug trials) are of microbial origin, produced by bacteria living in close association with their sponge hosts. So, the viable epibiotic microbial community of all *Aryls* species will be collected, isolated and phylogenetically characterized. Extracts will be made and tested for IDO inhibition potential.

5. Structural characterization of the isolated compounds presenting IDO inhibition.

The usual structural methods (FTIR, NMR, MS,..) will be used to elucidate the chemical structure of the active compounds.