**Supplemental Table 1.** Skin samples from each individual shark used for denticle morphology and surface topography quantification.

| Species                | Anterior to gill 1 (AG) | Interbranchial skin (LE, TE) | Posterior to gill 5 (PG) | Body (B) |
|------------------------|-------------------------|------------------------------|--------------------------|----------|
| *Alopias vulpinus*     | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Thresher shark         |                         |                              |                          |          |
| *Carcharhinus falciformes* |                        |                               |                          |          |
| Silky shark            |                         |                               |                          |          |
| *Carcharhinus taurs*   | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Sand tiger shark       |                         |                              |                          |          |
| *Carcharodon carcharias* |                      |                               |                          |          |
| White shark            | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Cetorhinus maximus*   |                         |                               |                          |          |
| Basking shark          |                         |                               |                          | ✔️       |
| *Isurus oxyrinchus*    | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Mako shark 1           |                         |                               |                          | ✔️       |
| Mako shark 2           | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Lamna nasus*          |                         |                               |                          | ✔️       |
| Porbeagle 1            | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Porbeagle 2            | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Porbeagle 3            | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Mustelus canis*       |                         |                               |                          | ✔️       |
| Smooth dogfish 1       | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Smooth dogfish 2       | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Smooth dogfish 3       | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Scyliorhinus canicula* |                       |                               |                          | ✔️       |
| Small spotted catshark |                         |                               |                          | ✔️       |
| *Scyliorhinus retifer* |                         |                               |                          |          |
| Chain catshark 1       | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Chain catshark 2       | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| Chain catshark 3       | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Sphyrma tiburo*       |                         |                               |                          | ✔️       |
| Bonnethead             | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Squalus acanthias*    |                         |                               |                          | ✔️       |
| Spiny dogfish          | ✔️                      | ✔️                           | ✔️                       | ✔️       |
| *Triakis semifasciata* |                         |                               |                          | ✔️       |
| Leopard shark          | ✔️                      | ✔️                           | ✔️                       | ✔️       |