



Supplementary Material

Table S1. After the desalination process, each sample was weighed and from this value it was possible to obtain both the amount of water, which represents approximately 98% by weight, and the hypothetical amount of proteins, mainly collagen, for the remaining 2% in weight.

	Fresh Weight (gr)	Amount of Water (mL) ≈ 98%	Amount of Proteins (gr) ≈ 2%	Protein Concentrations (mg/mL)
Umbrella 1#	560	557.62	11.38	20.41
Oral Arms 1#	604.17	592.09	12.08	20.4
Umbrella 2#	411.6	403.37	8.23	20.4
Oral Arms 2#	214.48	210.19	4.29	20.41

Table S2. Respective volumes of water and acetic acid [17,5 N] to added at each sample to obtain a final concentration solution of: [0,05 N] (A); [0,1 N] (B);[0,5 N] (C).

(A)

	Amount of Water into the Sample (mL)	Complementary Quantity of Water to Obtain a Final Volume of 600mL	mL of CH ₃ COOH [17.5 N] Added to the Final Volume	(CH ₃ COOH) Cf for 6 Days
Umbrella 1#	557.62	40.66	1.72	0.05 N
Oral Arms 1#	592.09	6.19	1.72	0.05 N
Umbrella 2#	403.37	194.91	1.72	0.05 N
Oral Arms 2#	210.19	388.09	1.72	0.05 N

(B)

Volume of Each Solution	Increase in CH ₃ COOH [17.5 N] Concentration (mL Added to Each Sample)	(CH ₃ COOH) Cf for 10 Days
600 mL	1.71 mL	0.1 N

(C)

Volume of Each Solution	Complementary Quantity of Water to Obtain a Final Volume of 630mL	Increase in CH ₃ COOH [17.5N] Concentration (mL Added toEach Sample)	(CH ₃ COOH) Cf for 4 Days
601.71 mL	6.86 mL	18 mL	0.5 N

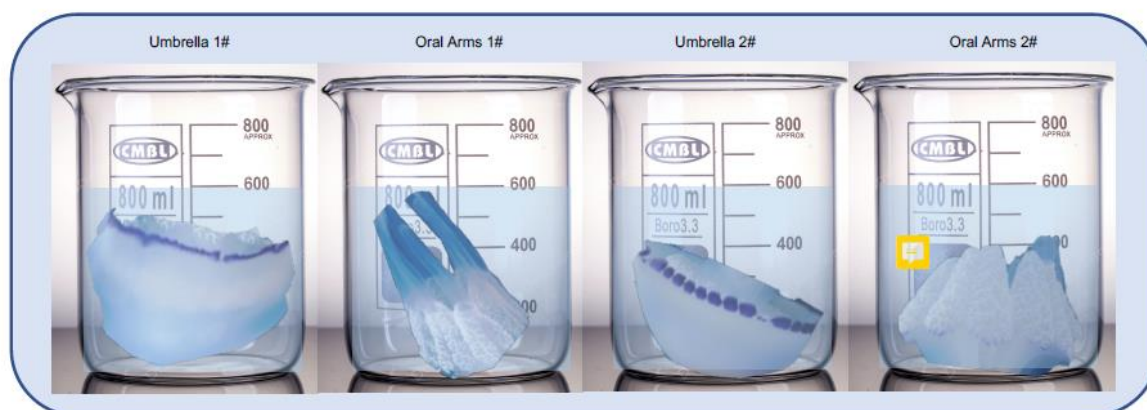


Figure S1. Each sample was incubated in a gradually increasing concentration of acetic acid solution up to the concentration of [0.5 N]. The protein extraction process was carried out at 4 °C for a total of 20 days.