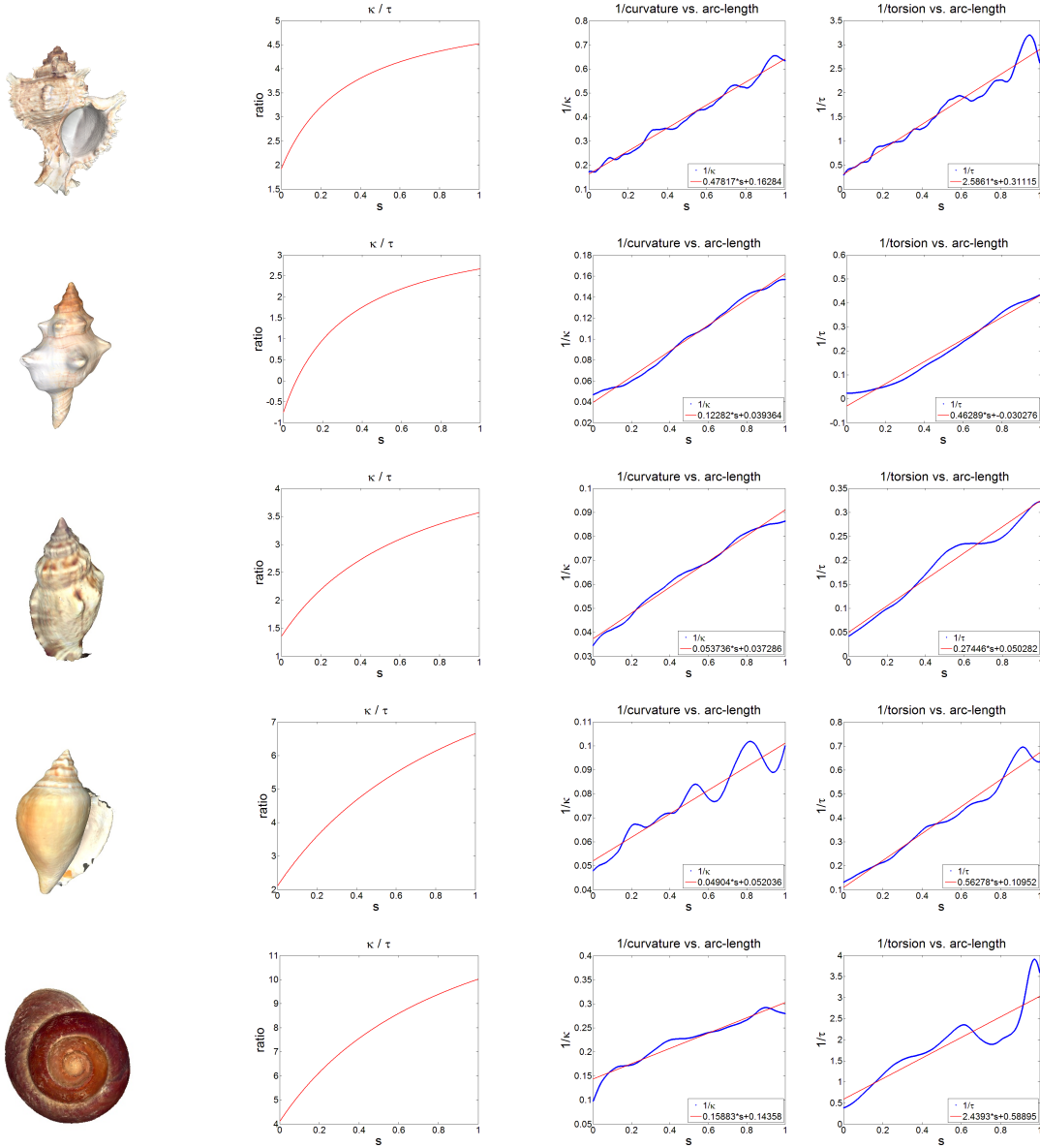


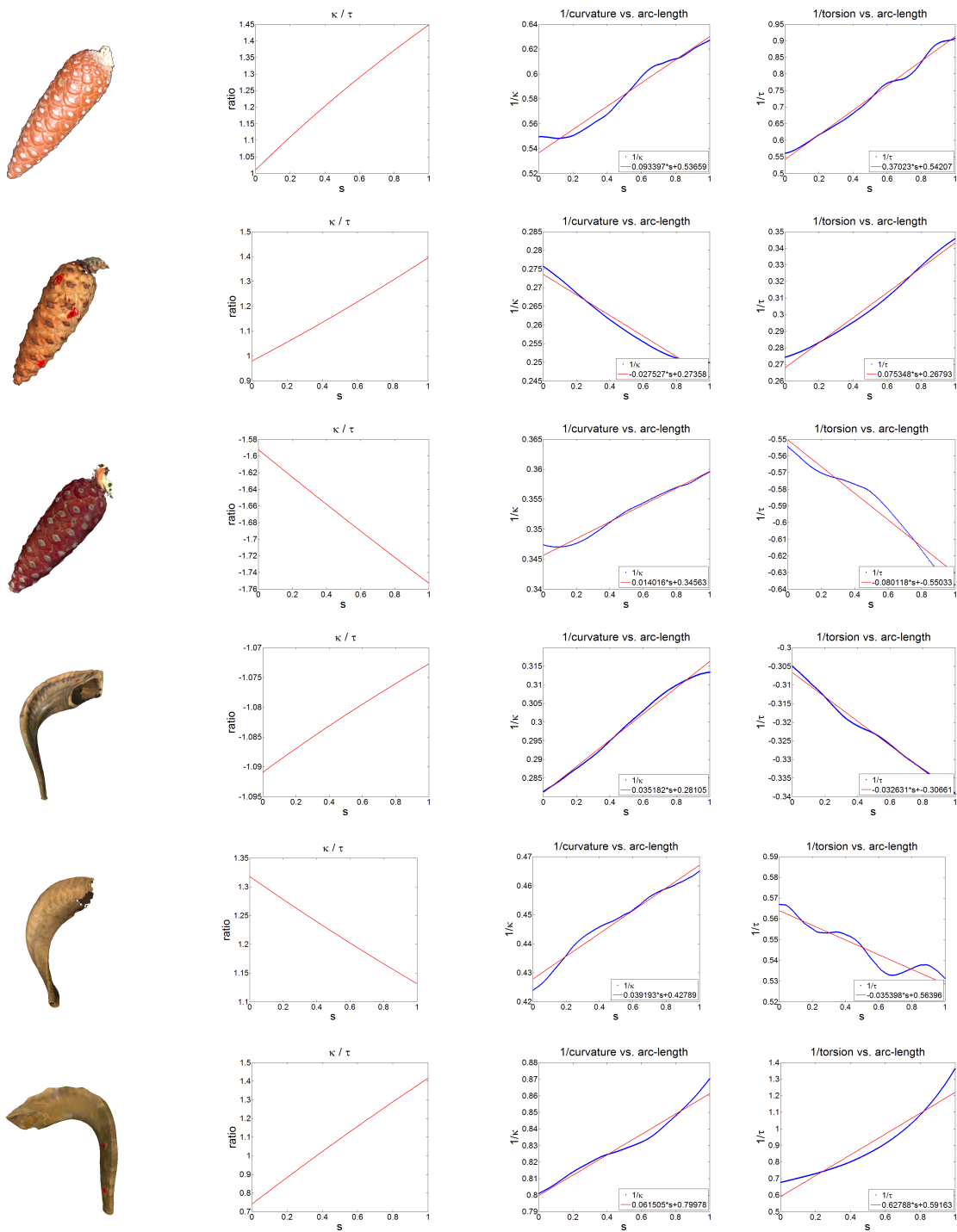
# The Natural 3D Spiral – Supplementary

**Extended Figure 4:** Figures 1–2 extend Figure 4 of the paper. They show all the objects used in our experiment.



(a) Scanned object (b) Ratio curvature / torsion (c) Linear fit to  $\frac{1}{\kappa}$  (d) Linear fit to  $\frac{1}{\tau}$

Figure 1: Scanned seashells (a); the ratios between their radii of torsion and their radii of curvature (b); the radii of curvature (c); the radii of torsion (d)



(a) Scanned object (b) Ratio curvature / torsion (c) Linear fit to  $\frac{1}{\kappa}$  (d) Linear fit to  $\frac{1}{\tau}$

Figure 2: Scanned pine cones and horns (a); the ratios between their radii of torsion and their radii of curvature (b); the radii of curvature (c); the radii of torsion (d)

**Extended Figure 6:** The following figure is an extension of Figure 6 of the paper. It compares our spiral, as well as the other proposed spirals ( $S_2, S_3$ ), to the spirals obtained from all our scanned objects.






















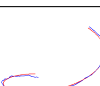
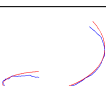
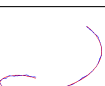

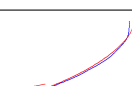
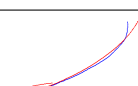
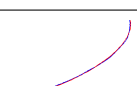



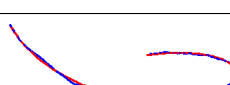


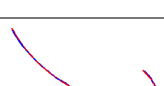
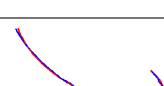

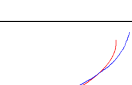
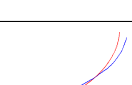
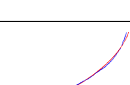

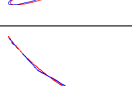
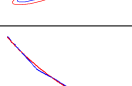
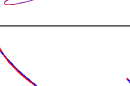
Scanned object	$S_2$	$S_3$	Our spiral	MSE
				$S_2$ : 5.7E-3 $S_3$ : 1.4E-3 Ours: 0.85E-3
				$S_2$ : 7.0E-3 $S_3$ : 0.57E-3 Ours: 0.39E-3
				$S_2$ : 6.7E-3 $S_3$ : 0.66E-3 Ours: 0.54E-3
				$S_2$ : 1.9E-3 $S_3$ : 1.4E-3 Ours: 1.2E-3
				$S_2$ : 0.62E-3 $S_3$ : 1.2E-3 Ours: 0.35E-3
				$S_2$ : 0.77E-3 $S_3$ : 1.6E-3 Ours: 0.21E-3
				$S_2$ : 11.5E-4 $S_3$ : 19.9E-4 Ours: 1.5E-4
				$S_2$ : 0.92E-4 $S_3$ : 1.4E-4 Ours: 0.66E-4
				$S_2$ : 1.9E-4 $S_3$ : 1.0E-4 Ours: 0.54E-4
				$S_2$ : 8.5E-3 $S_3$ : 5.5E-3 Ours: 0.09E-3
				$S_2$ : 5.4E-4 $S_3$ : 7.8E-4 Ours: 2.2E-4

Figure 3: Fitting the different spirals (red) to the spirals of the real data (blue) in Figures 1(a)–2(a). Right: the error obtained by fitting the spirals.