

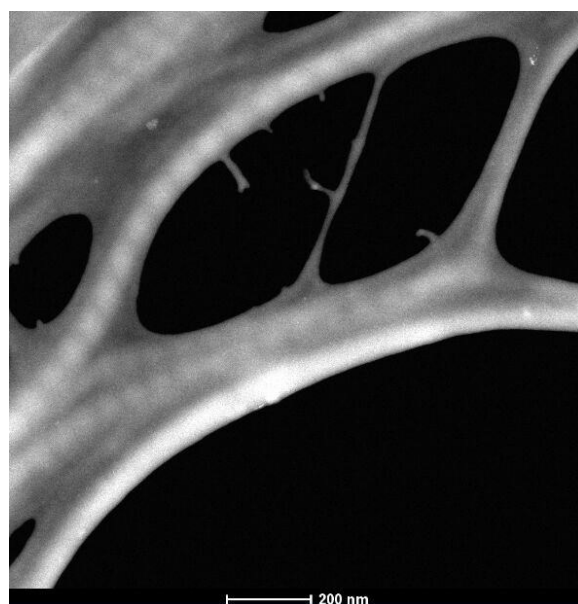


Fig.S1 The image of undenatured type II collagen with transmission electron microscope

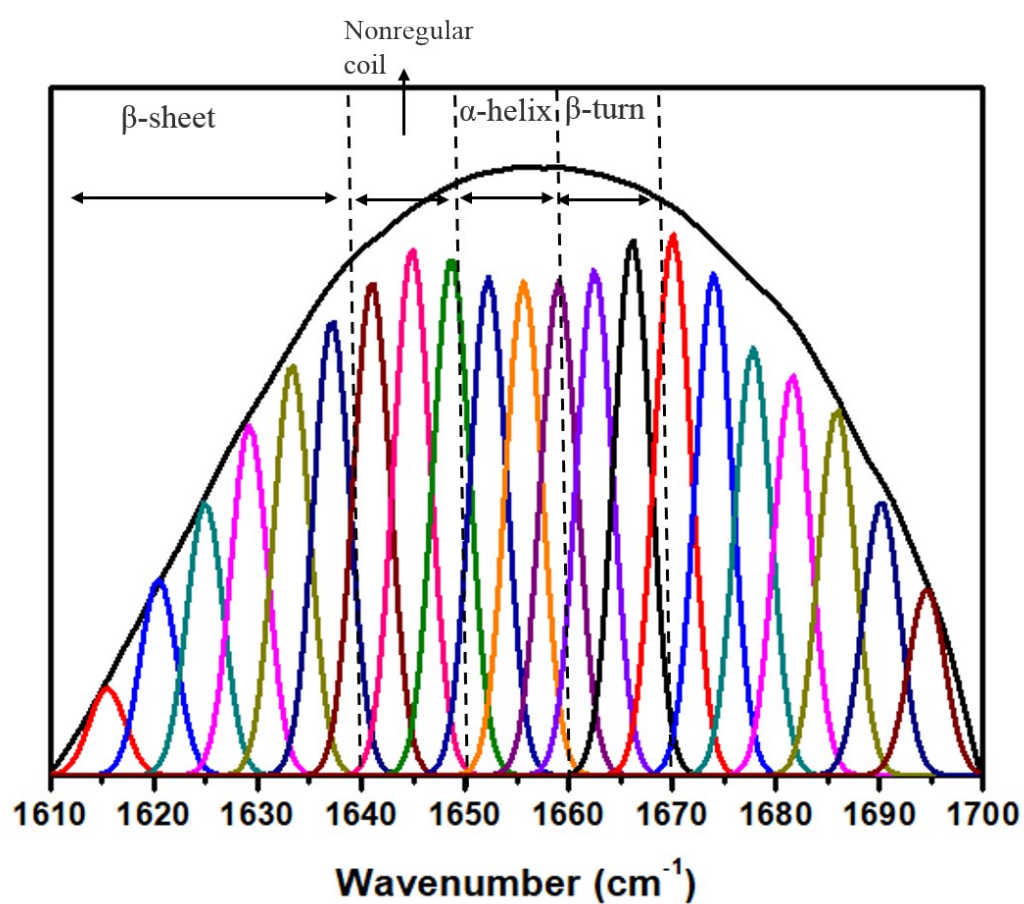


Fig. S2 The infrared spectroscopy of undenatured type II collagen

Table S1 Amino acid composition of UC II

Amino acid	Content (g/100g)	Amino acid	Content (g/100g)
Asp	4.15	Val	2.05
Glu	8.72	Met	1.15
Ser	1.36	Phe	1.50
His	0.60	Ile	1.32
Gly	11.72	Leu	2.72
Thr	1.81	Lys	2.15
Arg	4.95	Pro	3.63
Ala	4.6	Hydroxyproline	8.26
Tyr	0.46		

Table S2. The description of gain parameters

Parameter	Definition
Run Characterization	
Cadence (steps/sec)	Steps per second.
Temporal Parameters	
Stand or Stance phase (sec)	Duration of contact of a paw with the glass plate.
Swing or Swing phase (sec)	Duration of no contact of a paw with the glass.
Step Cycle (sec)	Time between two consecutive initial contacts of the same paw.
Duty Cycle (%)	Relative Stand Phase as part of Step Cycle.
Single Stance (sec)	Duration of contact with the glass for a single hind paw. In others words, duration of a Step Cycle in which one paw is in contact with the glass plate, but the contralateral paw is not.
Spatial Parameters	
Max Contact Max Intensity (a.u)	Maximum intensity at max contact of a paw.
Mean Intensity (a.u)	Mean intensity of the complete paw.
Kinetic Parameters	
Swing Speed (cm/s)	Speed of the paw during Swing.
Interlimb Coordination Parameters	
Stride Length (cm)	Distance between successive placements of the same paw.
Step Sequence	Order in which the paws were placed on the glass plate. This order determines the footfall pattern.
StepSequence_RegularityIndex_ (%)	Regularity Index (RI) parameter expresses the number of normal step sequence patterns relative to the total number of paw placement.
Phase Dispersion %	The moment of initial contact of a target paw expressed as a percentage of the Step Cycle time of an anchor paw (Ranges from 75 to -50%).
Support (%)	Percentage of a run when the animal is supported by one, two three or four paws simultaneously on the glass plate in each Step Cycle.
Support_Diagonal_ (%)	Two paws in contact with the glass plate divided in three categories: <i>Girdle</i> : Either front or hind paws. <i>Lateral</i> : Either left or hind paws. <i>Diagonal</i> : either Right Front + Left Hind or Left Front + Right Hind.
Support_Girdle_ (%)	
Support_Lateral_ (%)	
Support_Three_ (%)	Three paws in contact with the glass plate.

