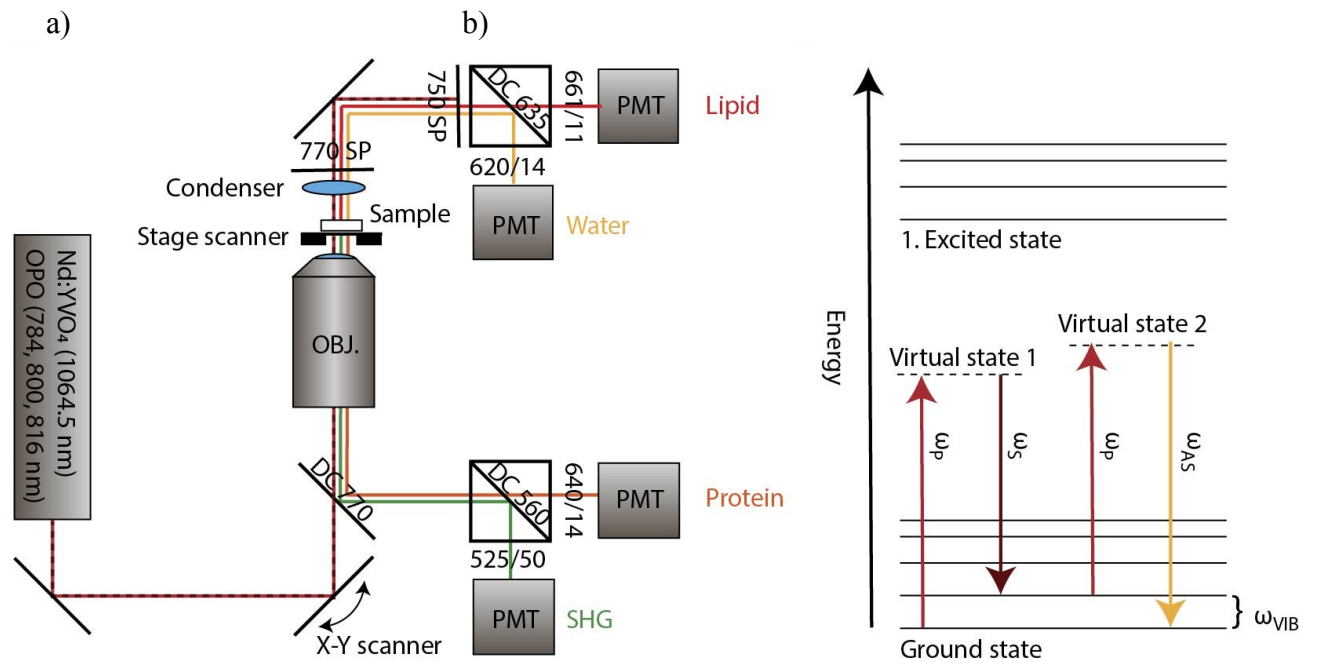
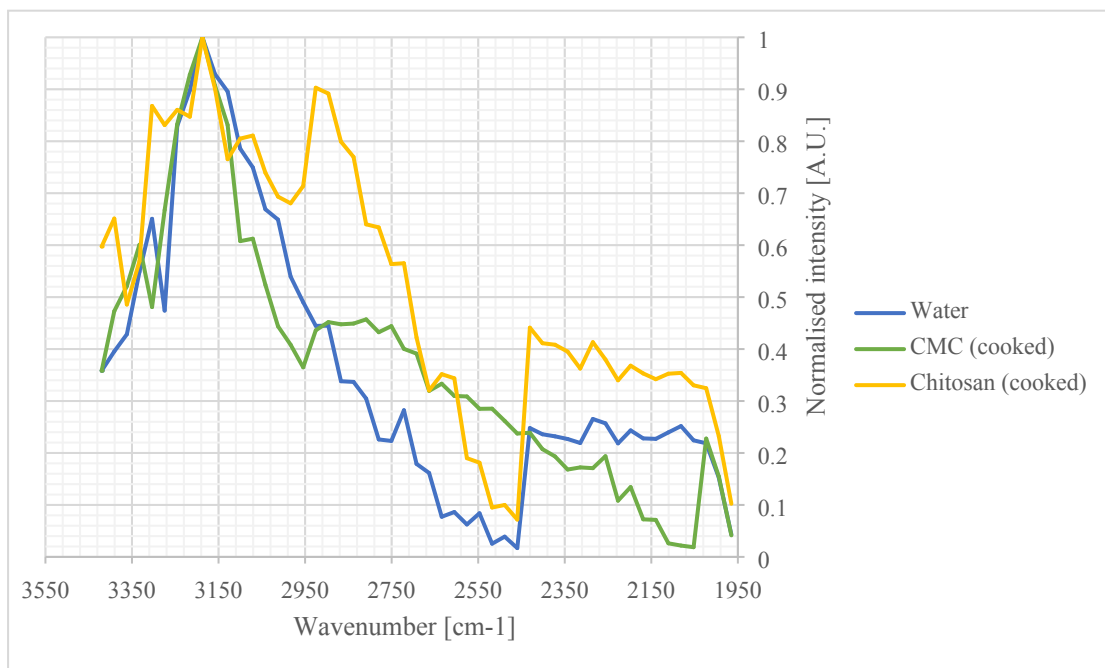


Supplementary Table 1. Formulation of the meat systems

Ingredient	control	chitosan	CMC
Minced pork	75% (w/w)	75% (w/w)	75% (w/w)
Minced back fat	15% (w/w)	15% (w/w)	15% (w/w)
Ice water	8.5% (w/w)	6.5% (w/w)	6.5% (w/w)
NaCl	1.5% (w/w)	1.5% (w/w)	1.5% (w/w)
Dietary fiber	0% (w/w)	2% (w/w)	2% (w/w)



Supplementary Fig. 1. Coherent anti-Stokes Raman scattering (CARS) microscopy. a) shows an illustration of the used CARS microscope. OBJ. = objective, PMT = photomultiplier tube, DC = dichroic mirror, SP = short pass filter, SHG = second harmonic generation, OPO = optical parametric oscillator. b) Shows the excitation and energy scheme of the CARS process.



Supplementary Fig. 2. Coherent anti-Stokes Raman scattering (CARS) scan of Chitosan and CMC signal. CARS pump laser scan (780 nm – 880 nm, corresponding to emission wavenumbers of 3420 cm⁻¹ – 1965 cm⁻¹) of water (blue), CMC in water after heat treatment (green), and chitosan in water after heat treatment (yellow). The signal is normalized to the maximum peak signal within each graph.