

Low-Molecular-Weight Gels as Smart Materials for the Enhancement of Antioxidants Activity

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Table S1: Composition of LMW gels with α -tocopherol.

Gelator [%]	α -tocopherol [μ M]	α -tocopherol (1mM) [mL]	DMSO [mL]	H ₂ O [mL]	Tot V [mL]
0.8	5	0.005	0.695	0.3	1
	10	0.010	0.690		
	15	0.015	0.685		
	20	0.020	0.680		
	40	0.040	0.660		
	60	0.060	0.640		
	100	0.100	0.600		
0.8	5	0.005	0.795	0.2	1
	10	0.010	0.790		
	15	0.015	0.785		
	20	0.020	0.780		
	40	0.040	0.760		
	60	0.060	0.740		
	100	0.100	0.700		
0.8	5	0.005	0.495	0.5	1
	10	0.010	0.490		
	15	0.015	0.485		
	20	0.020	0.480		
	40	0.040	0.460		
	60	0.060	0.440		
	100	0.100	0.400		
1.0	5	0.005	0.695	0.3	1
	10	0.010	0.690		
	15	0.015	0.685		
	20	0.020	0.680		
	40	0.040	0.660		
	60	0.060	0.640		
	100	0.100	0.600		
1.0	5	0.005	0.795	0.2	1
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1.0	5	0.005	0.495	0.5	1
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	40	0.040	0.460		
	60	0.060	0.440		
	100	0.100	0.400		

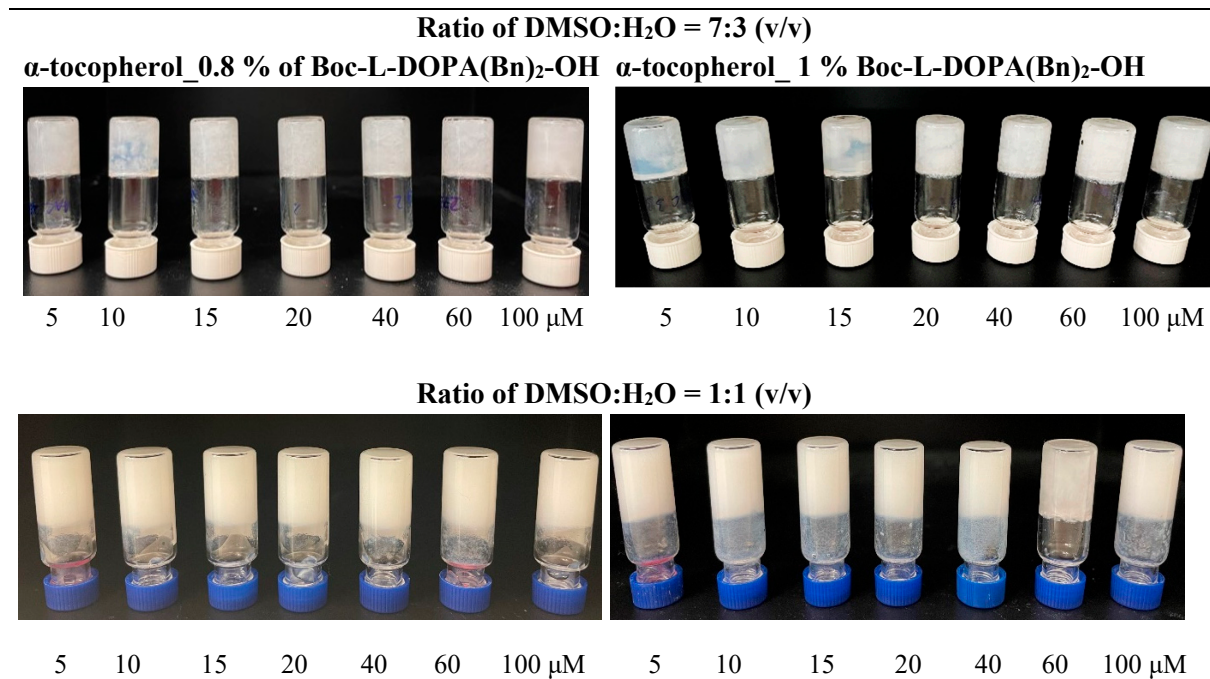


Figure S1: Gels of Boc-L-Dopa(Bn)₂-OH with α-tocopherol.

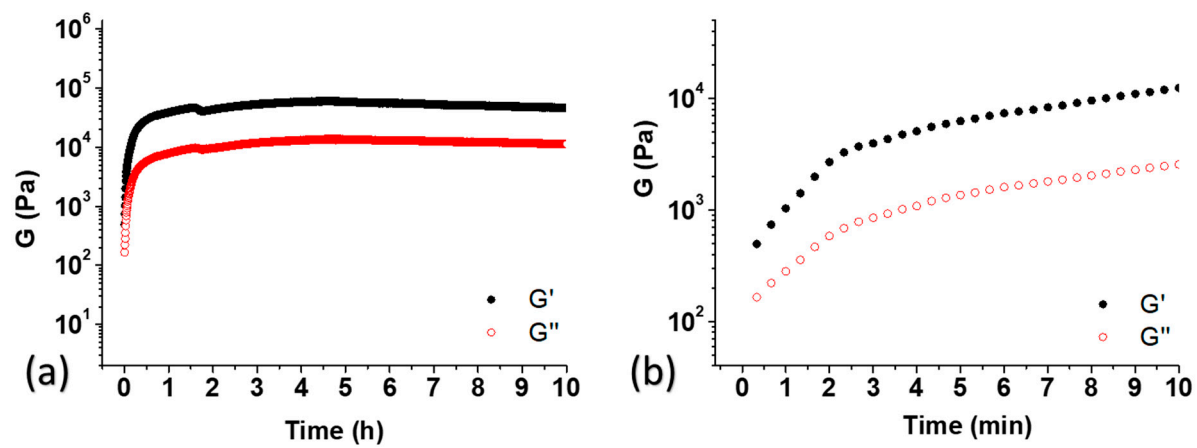


Figure S2. Time sweep analysis of the gel of Boc-L-Dopa(Bn)₂-OH 0.8% w/v (DMSO/H₂O 70/30) with 5 μ M concentration of α -tocopherol.

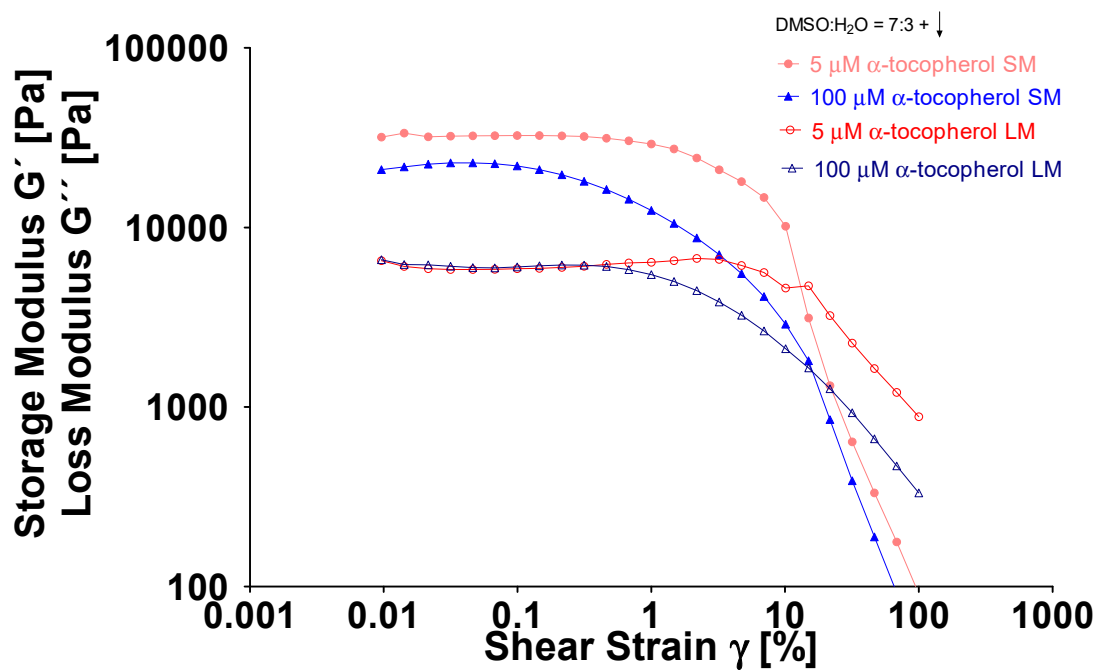


Figure S3: Amplitude sweeps of gels (0.8% w/v) of Boc-L-DOPA(Bn)₂-OH in DMSO:H₂O = 7:3 with incorporated α-tocopherol in a specific concentration.

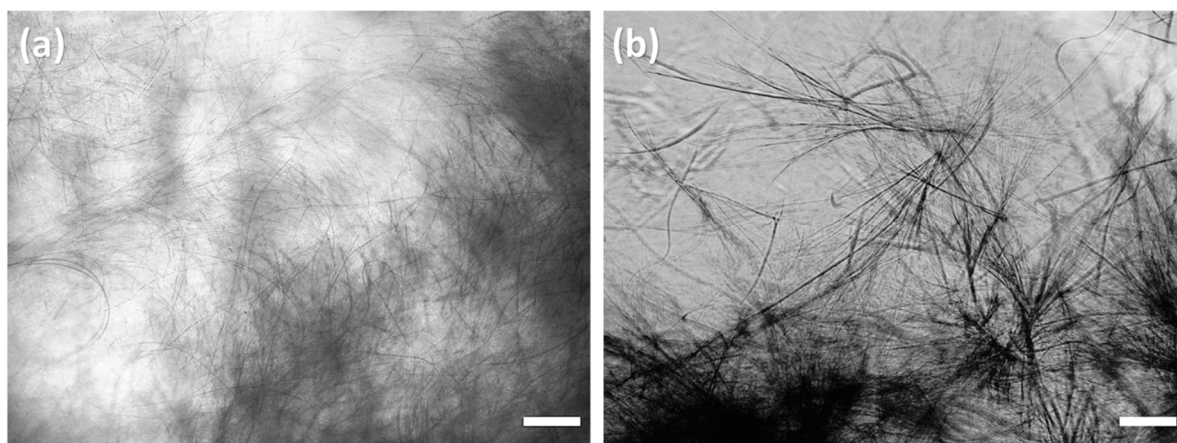
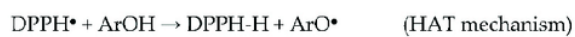


Figure S4: Optical microscope images of gels (0.8% w/v) of Boc-L-DOPA(Bn)₂-OH in DMSO:H₂O = 7:3 with incorporated (a) 5 μM or (b) 100 μM of α-tocopherol. Scalebar = 100 μm.

Chemical reactions:



where ArOH: phenolic AO

Mechanism of reaction: HAT

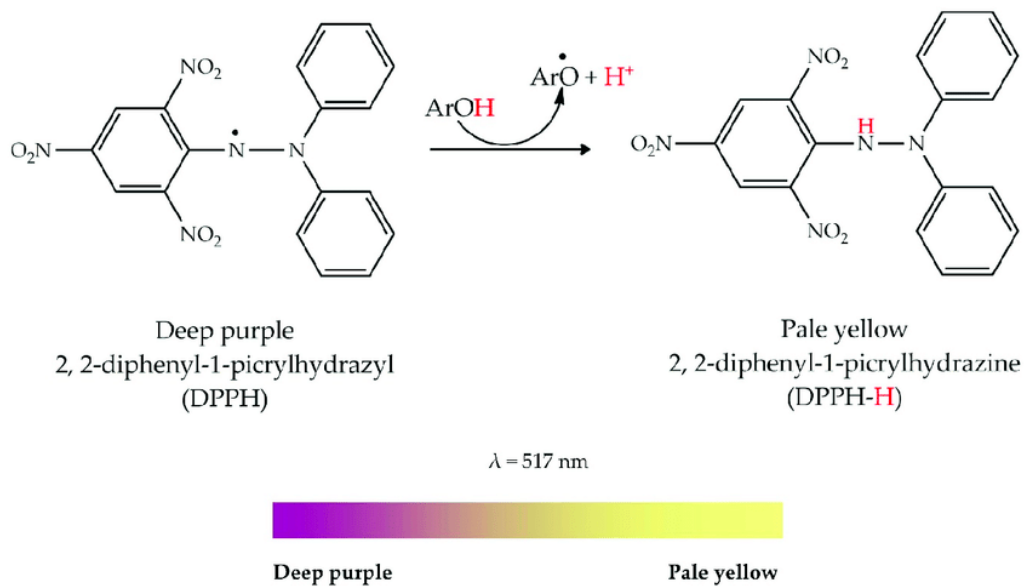


Figure S5: 2, 2-diphenyl-1-picrylhydrazyl (DPPH) reaction mechanism.

Table S2: Composition of LMW gels with postbiotics (PB).

Gelator [% w/v]	PB [% v/v]	DMSO [mL]	PB [mL]	H ₂ O [mL]	Total V [mL]
0.5	30	0.5	0.3	0.2	1
0.5	50	0.5	0.5	-	1
0.5	60	0.4	0.6	-	1
0.5	70	0.3	0.7	-	1
0.5	80	0.2	0.8	-	1

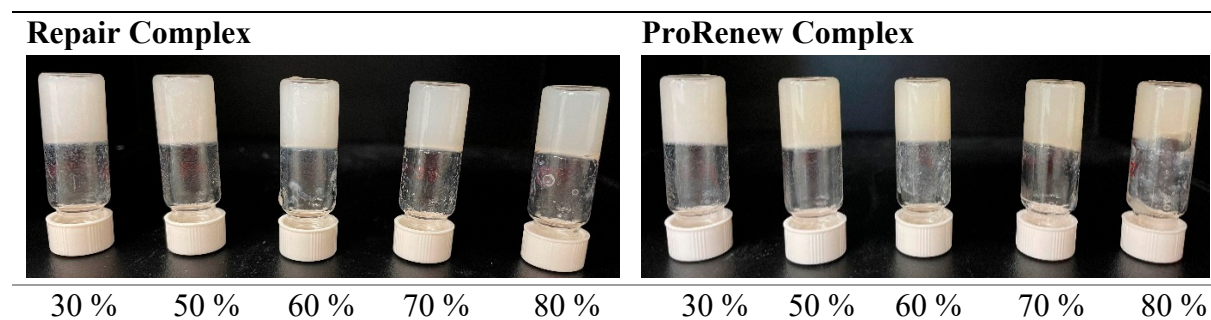


Figure S6. Gels of Boc-L-Dopa(Bn)₂-OH with postbiotics.

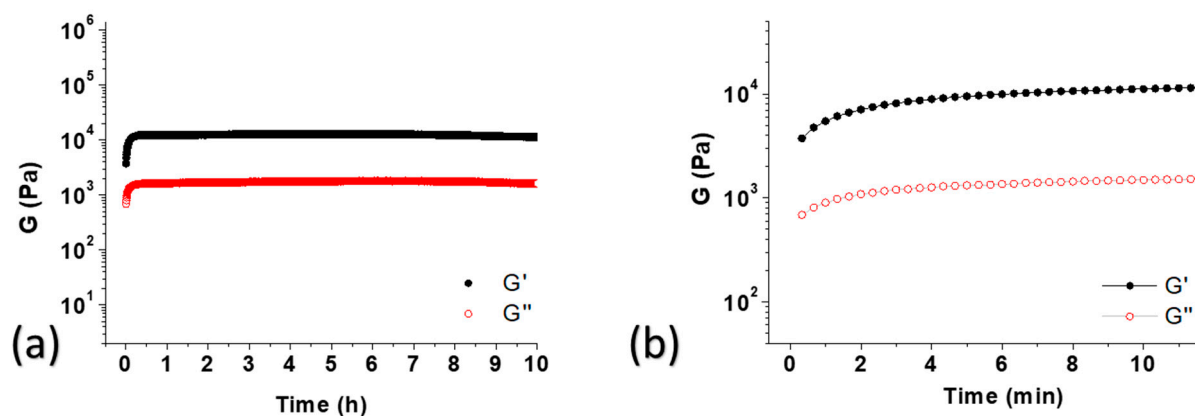


Figure S7. Time sweep analysis of the gel of Boc-L-Dopa(Bn)₂-OH 0.5% w/v with 30% of Repair complex over 10 h (a) and over 10 minutes (b).

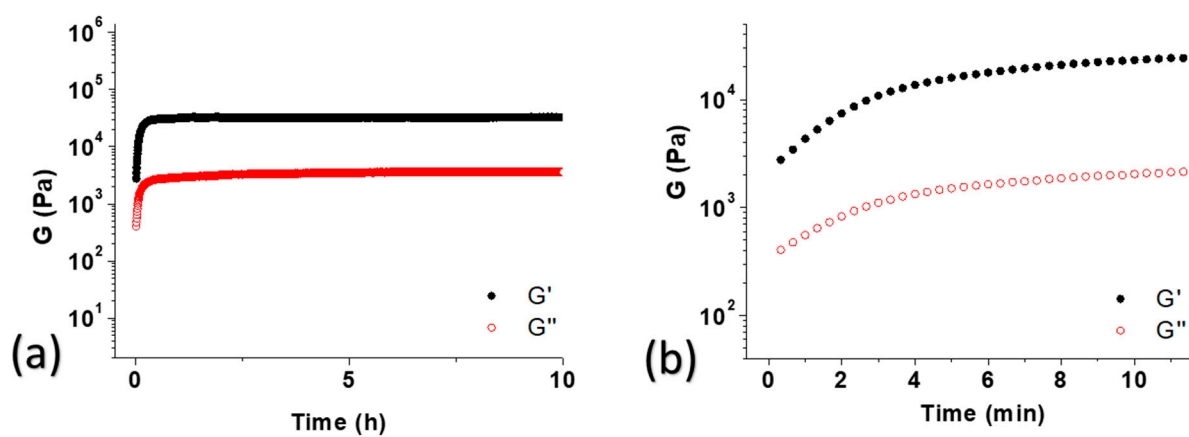


Figure S8. Time sweep analysis of the gel of Boc-L-Dopa(Bn)₂-OH 0.5% w/v with 30% of ProRenew complex over 10 h (a) and over 10 minutes (b).

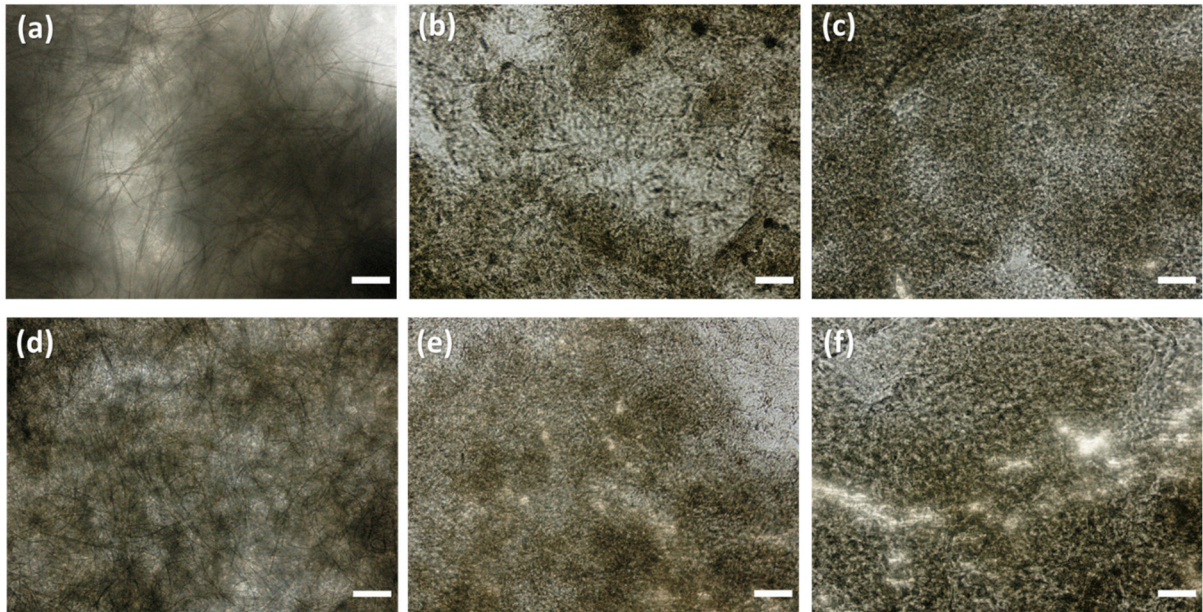


Figure S9. Optical microscope images showing gel fibers when postbiotics ProRenew Complex (a, b, c) or Repair Complex (d, e, f) is used to trigger gelation. a/d: gels with 30% of PBs; b/e: gels with 60% of PBs; c/f: gels with 80% of PBs; scalebar = 100 μm .

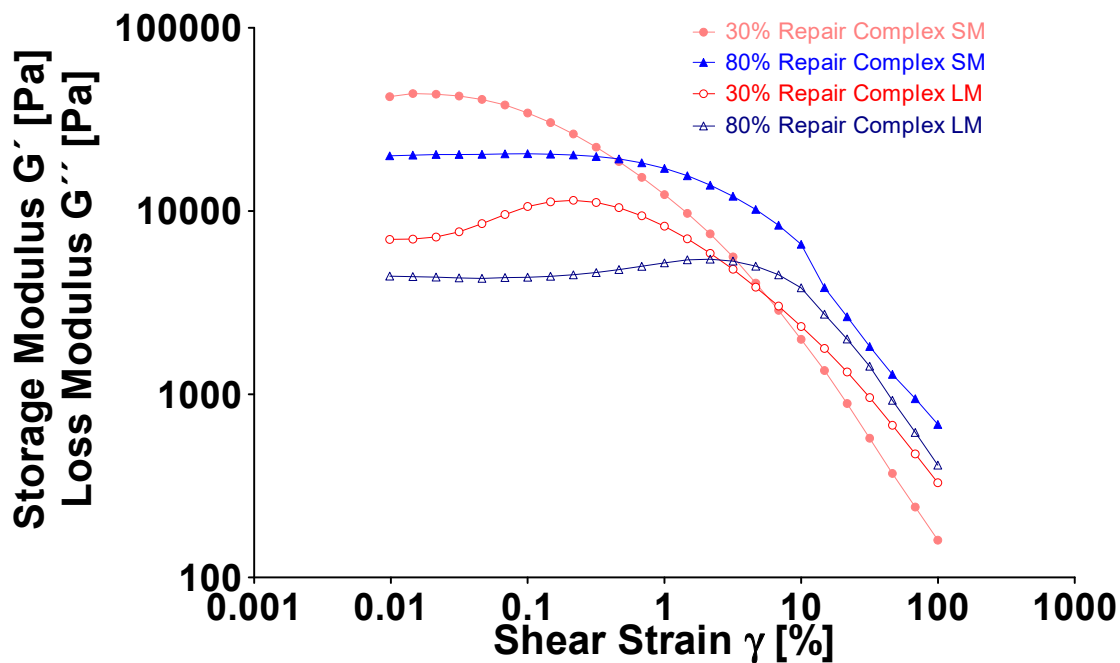


Figure S10: Amplitude sweep of gels 0.5% of Boc-L-DOPA(Bn)₂-OH in DMSO:Postbiotics (Repair Complex) in specific concentrations.

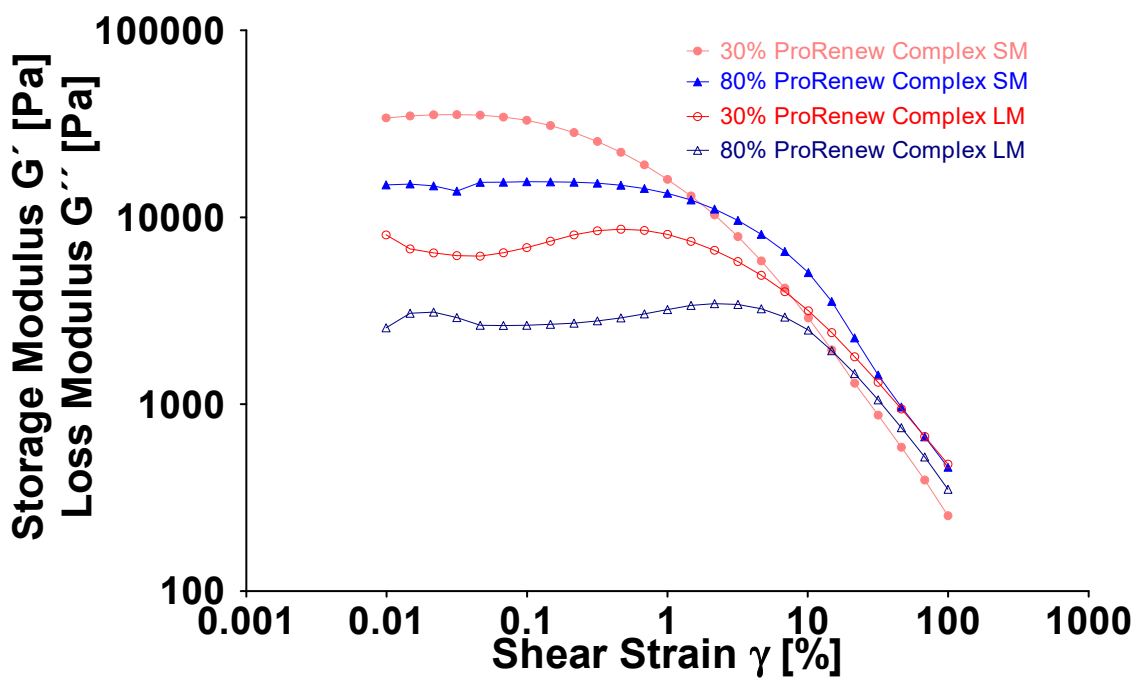


Figure S11: Amplitude sweep of gels 0.5% of Boc-L-DOPA(Bn)₂-OH in DMSO:Postbiotics (ProRenew Complex) in specific concentrations.