Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Tethering of rhBMP-2 upon calcium phosphate cement via Alendronate/Heparin for localized, sustained and enhanced osteoactivity

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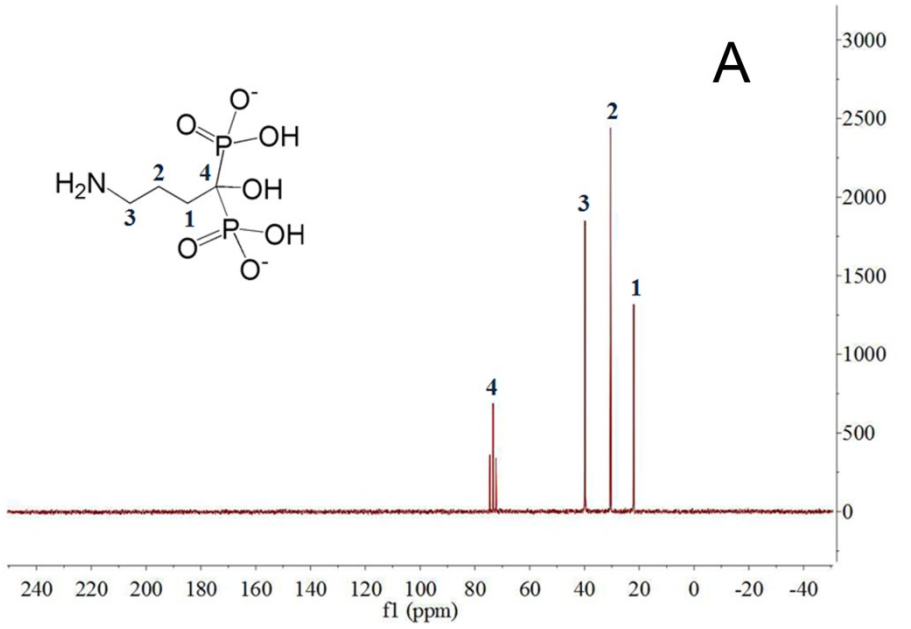
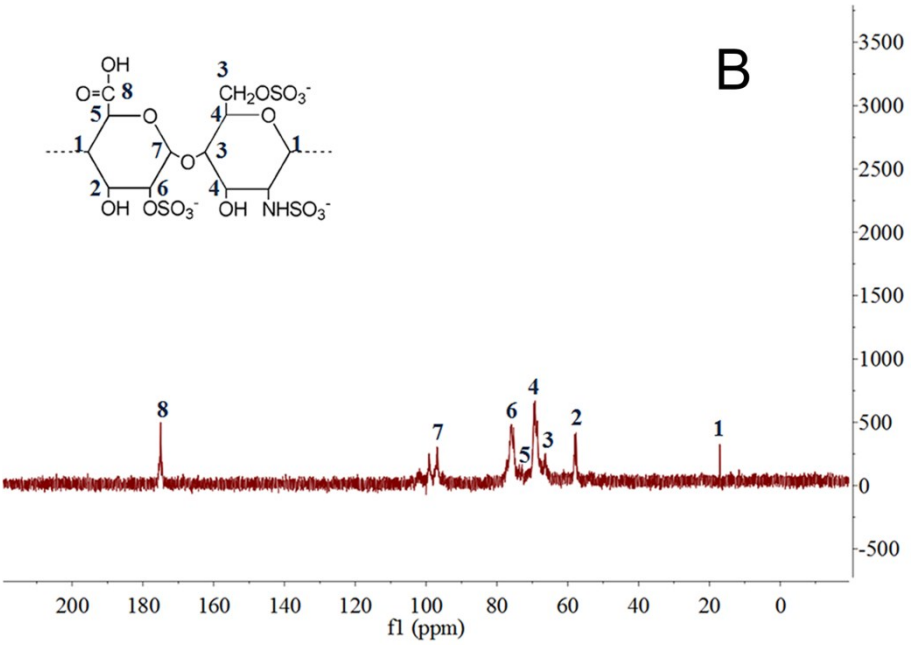

A
O⁻
O
P
OH
H₂N
2
4
OH
3
1
P
OH
O
O⁻
4
3
2
1
3000
2500
2000
1500
1000
500
0
240 220 200 180 160 140 120 100 80 60 40 20 0 -20 -40
f1 (ppm)


B
OH
O=C 8
5
O
1
7
O
2
6
OH OSO₃⁻
3
CH₂OSO₃⁻
4
O
1
3
4
OH NHSO₃⁻
8
7
6
4
5
3
2
1
3500
3000
2500
2000
1500
1000
500
0
-500
200 180 160 140 120 100 80 60 40 20 0
f1 (ppm)

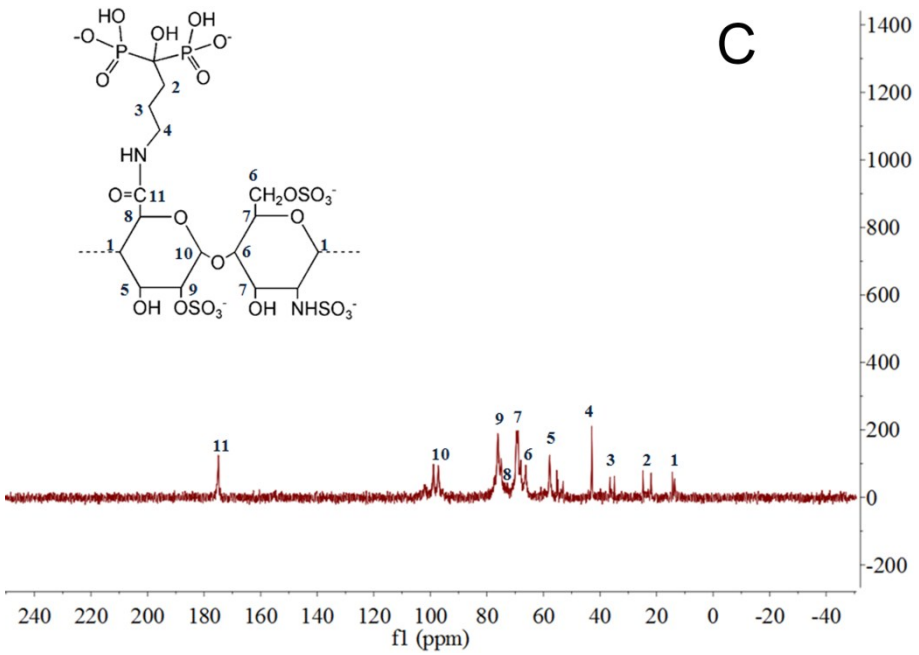


Fig. S1 ^{13}C NMR spectra of Alen (A), Hep (B) and AH (C). ^{13}C NMR analysis was used to confirm the successful synthesis of AH and to demonstrate the molecular structure of Alen, Hep and AH. The peak at 174.4 ppm (Fig. S1 C, peak 11) represented the covalent attachment of Alen onto the Hep via amide group. Additionally, other peaks could match to the corresponding C of the molecules. In the spectrum of AH, the characterized peaks corresponding to either Alen or Hep could be found.

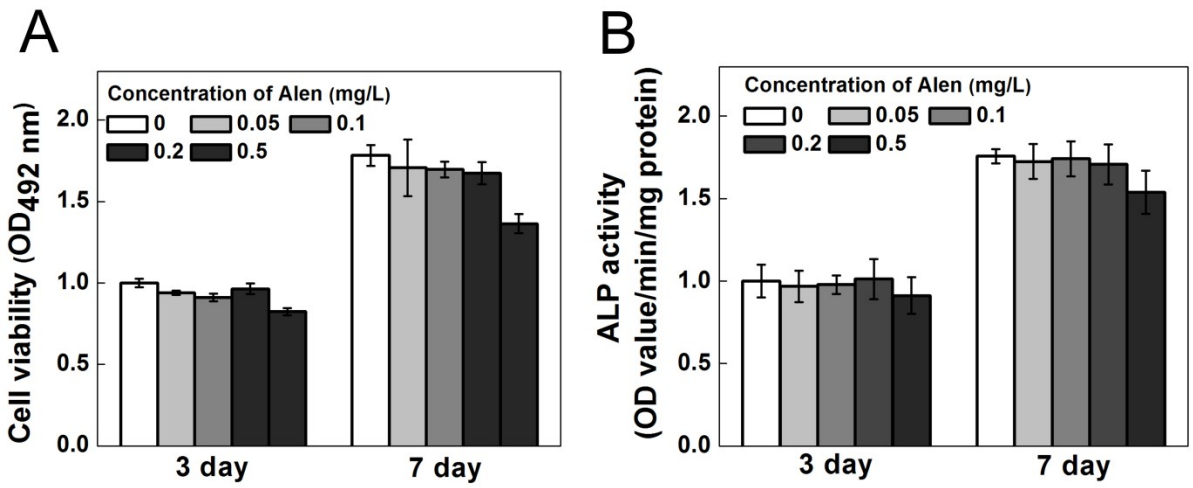


Fig. S2. Cell viability (A) and ALP activity (B) of C2C12 under the different concentration of Alen after 3 and 7 days. There was no significant difference exhibited in cell viability and ALP activity below the concentration of 0.2 mg/mL.