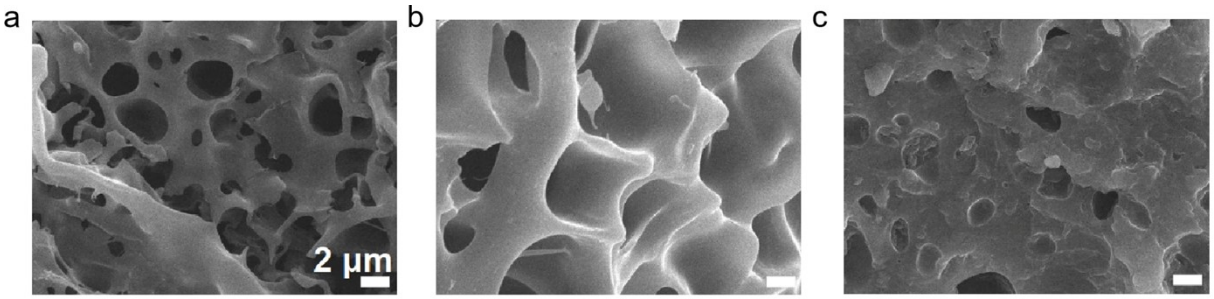

Figure S1. SEM image (a) Low-magnification SEM image of the PEC hydrogel. (bb) Low-magnification SEM image of the PMo_{12}-PEC hydrogel. (c) Low-magnification SEM image of the BA-PEC hydrogel.

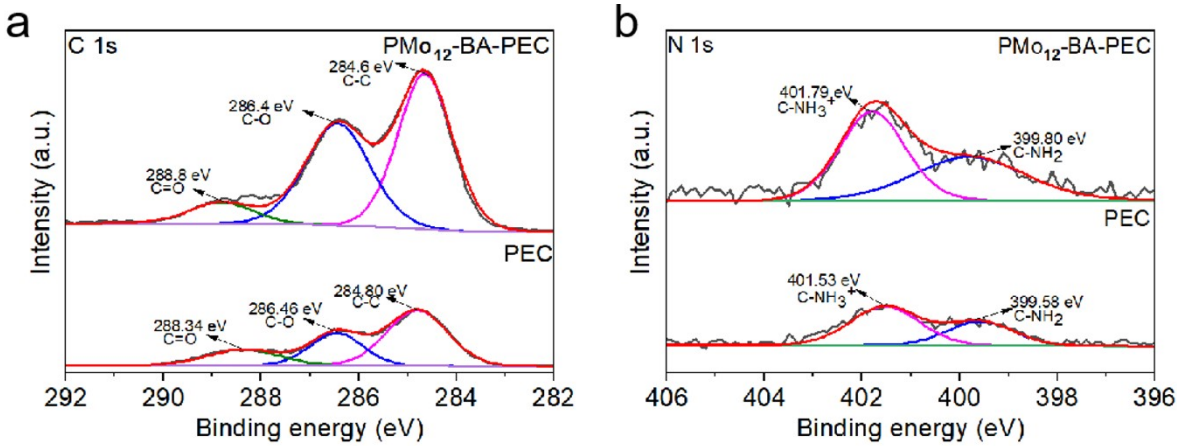

Figure S2. XPS spectrum (a) High-resolution C1s XPS spectrum. (b) High-resolution N1s XPS spectrum.

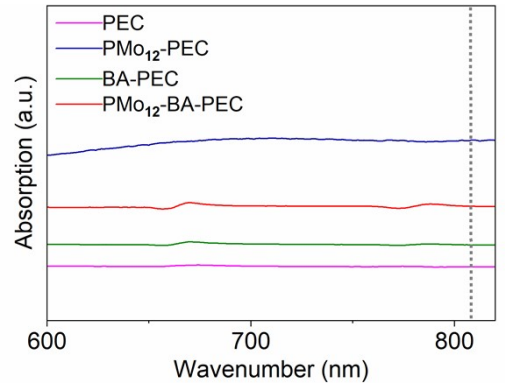

Figure S3. UV-vis absorption spectrum.

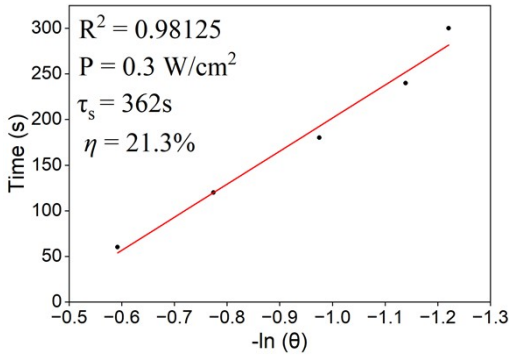

Figure S4. Photothermal conversion efficiency (η) of PMo_{12}-BA-PEC derived from cyclic curves.

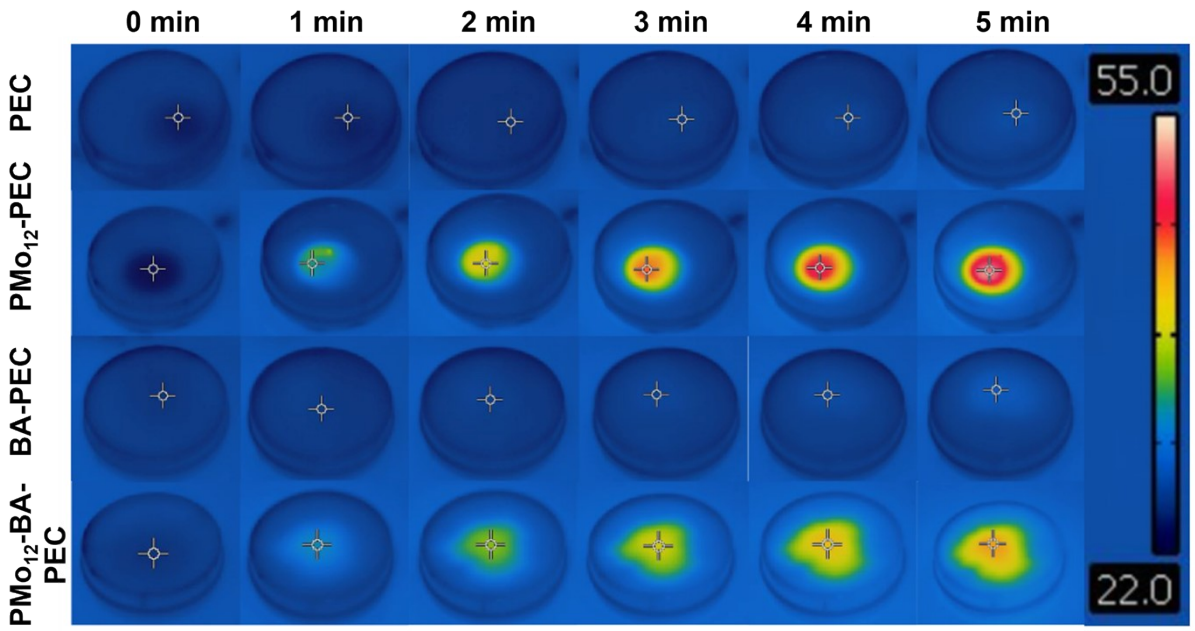

Figure S5. Infrared thermography images of PEC, PMo_{12}-PEC, BA-PEC, and PMo_{12}-BA-PEC hydrogels.

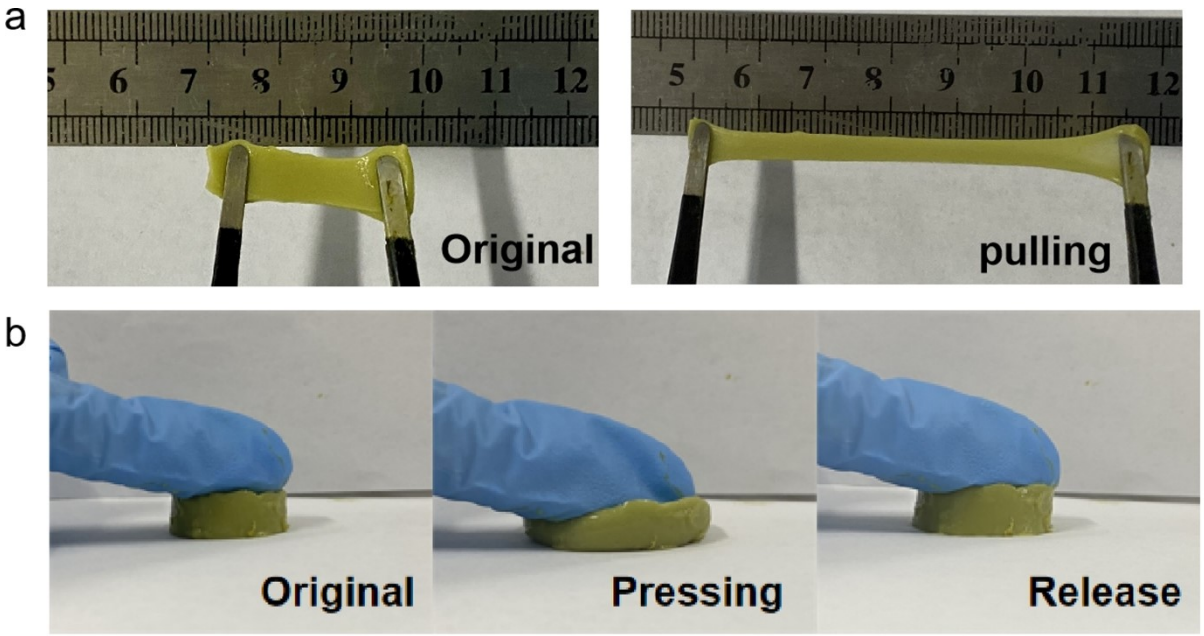

Figure S6. (a) PMo_{12}-BA-PEC hydrogel stretching and (b) compression demonstration.

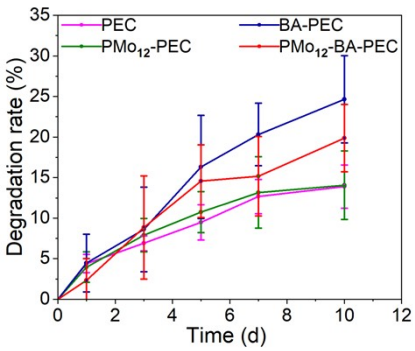

Figure S7. The degradation rate of hydrogel.

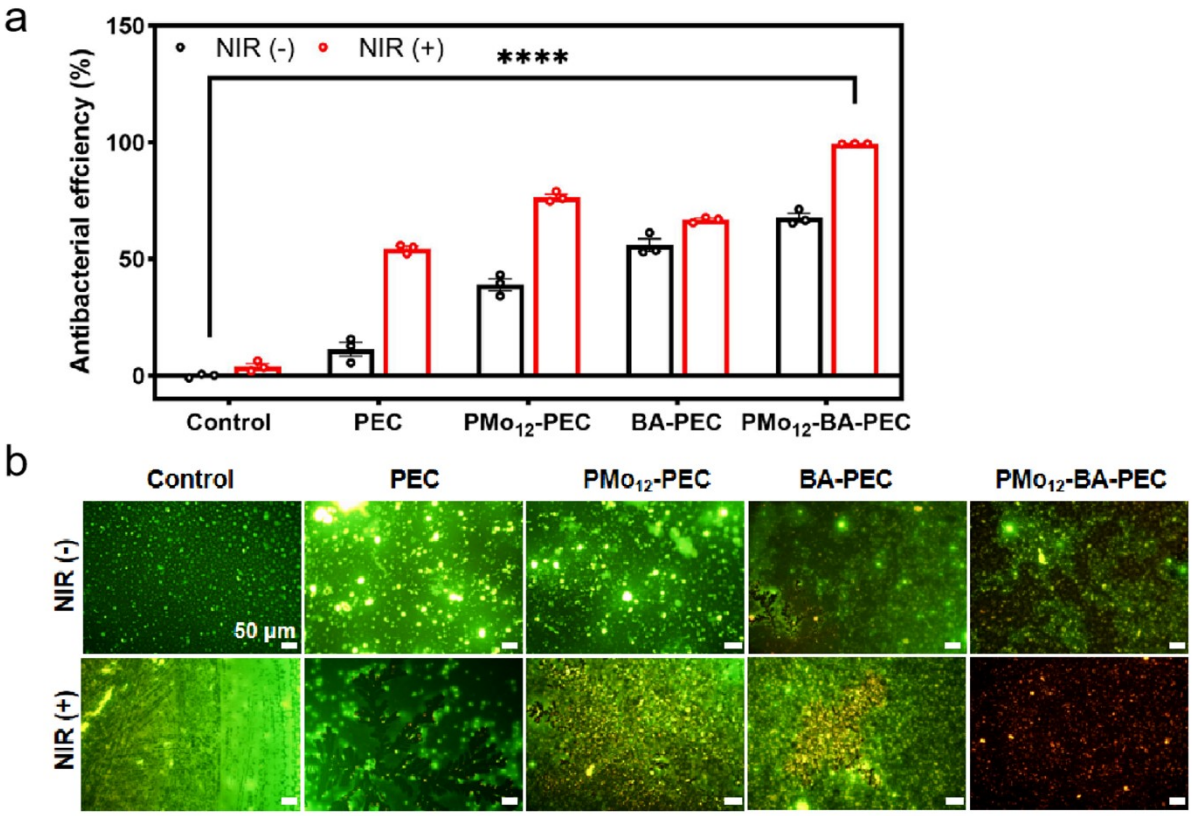

Figure S8. (a) The antibacterial rate of MRSA corresponding to different hydrogels. (bb) Live-dead fluorescence staining of MRSA (scale bars, 50 μm). The green fluorescence signifies the presence of live bacteria, while the red fluorescence signifies the presence of dead bacteria.

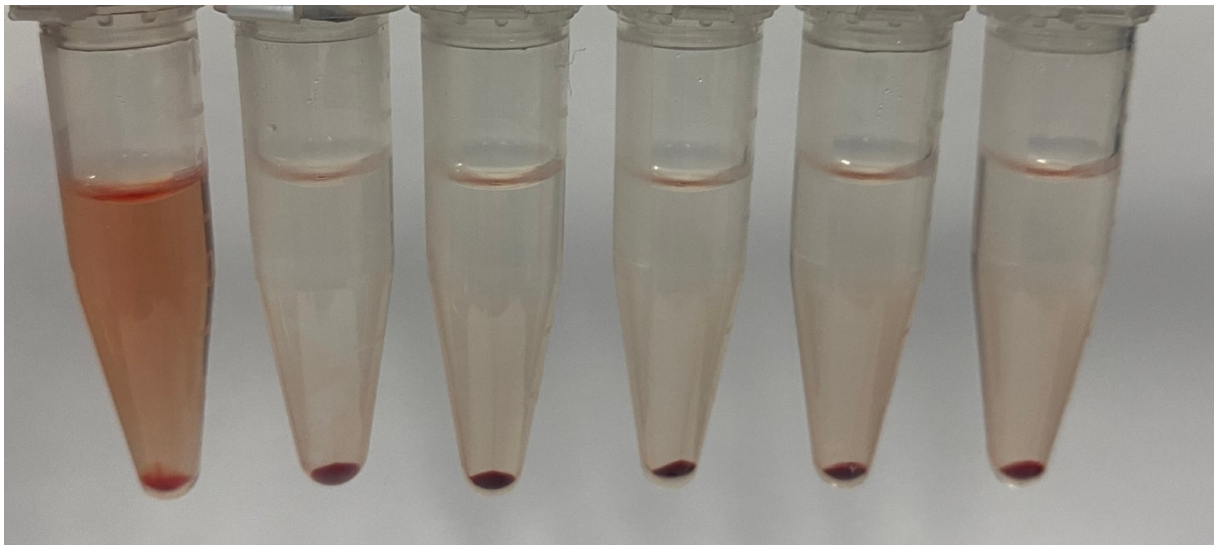

Figure S9. Pictures of hemolysis test results of H_2O, Saline, PEC, PMo_{12}-PEC, BA-PEC,and PMo_{12}-BA-PEC after 4 h of incubation.

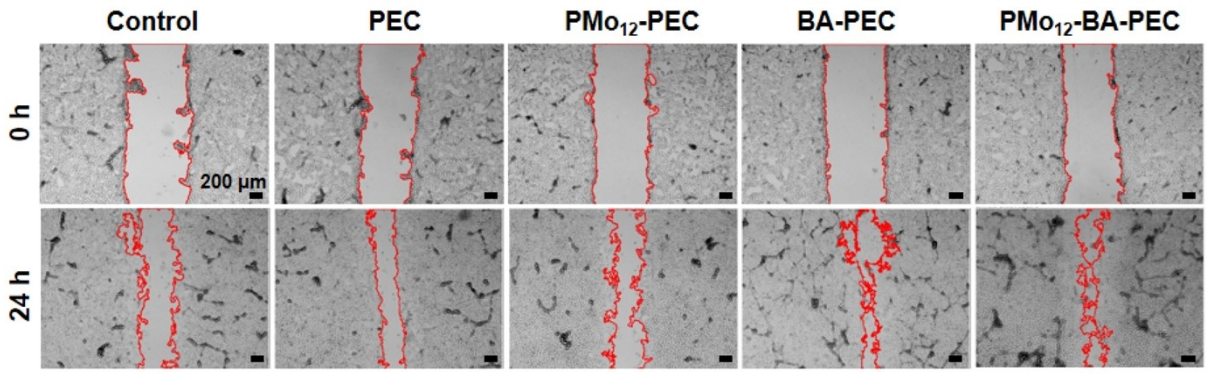

Figure S10. Cell scratch images of cell migration measured at 0, and 24 h of culture (scale bars, 200 μm).

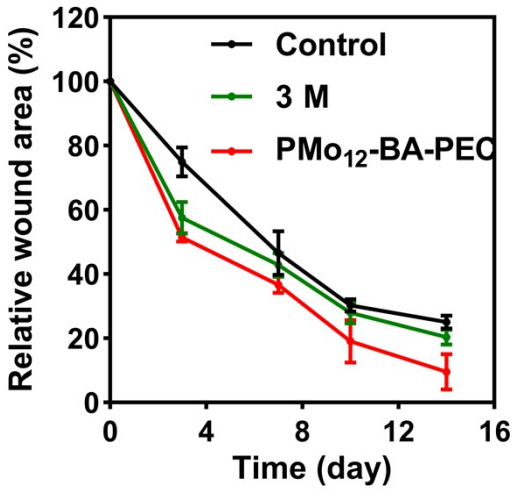

Figure.S11. Statistical analysis of the wound area.

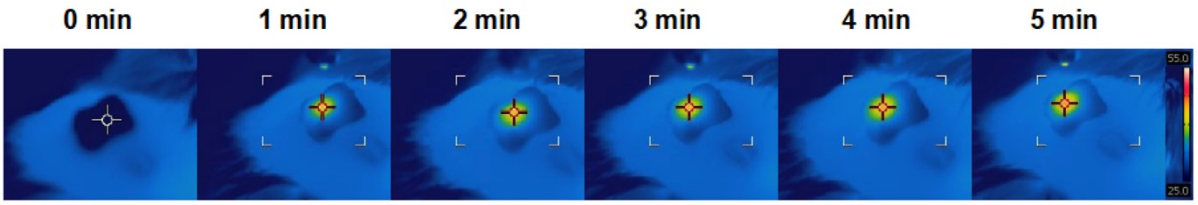

Figure S12. Infrared thermography images of the wound treated with PMo_{12}-BA-PEC hydrogel irradiated with 808 nm near-infrared light for 5 minutes in rats.

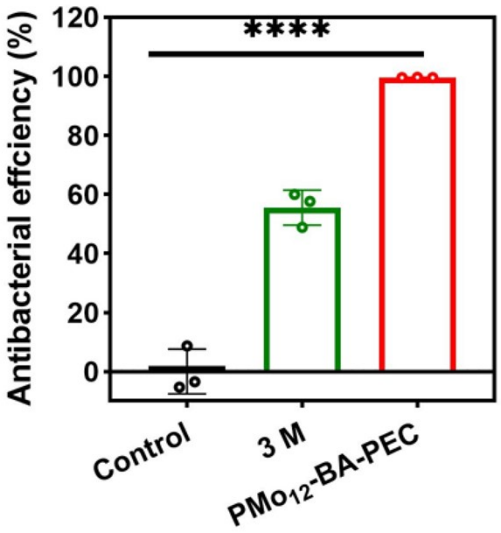

Figure S13. The antibacterial efficiency of Control, 3 M and PMo_{12}-BA-PEC hydrogel on wound tissue was calculated according to Figure 7c.

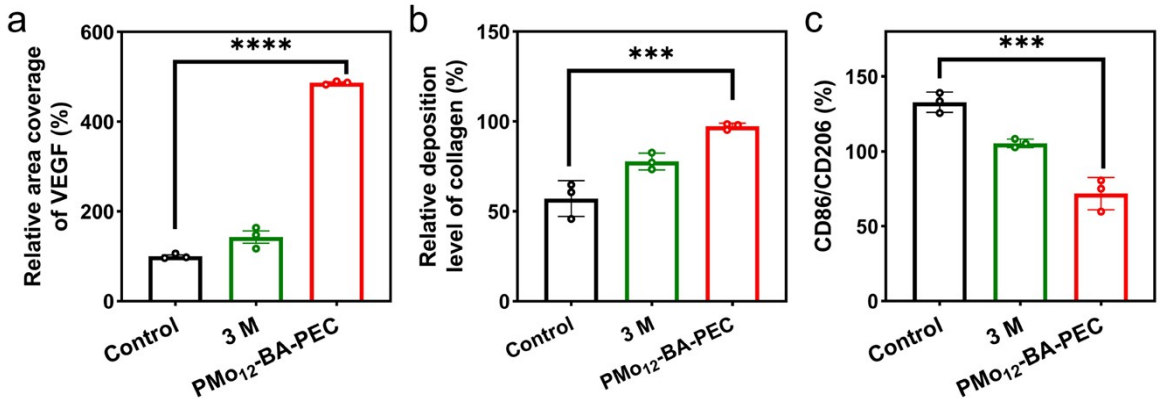

Figure.S14. (a) Quantitative data of VEGF. (b) Collagen deposition level. (c) CD86/CD206 in different treatment groups.

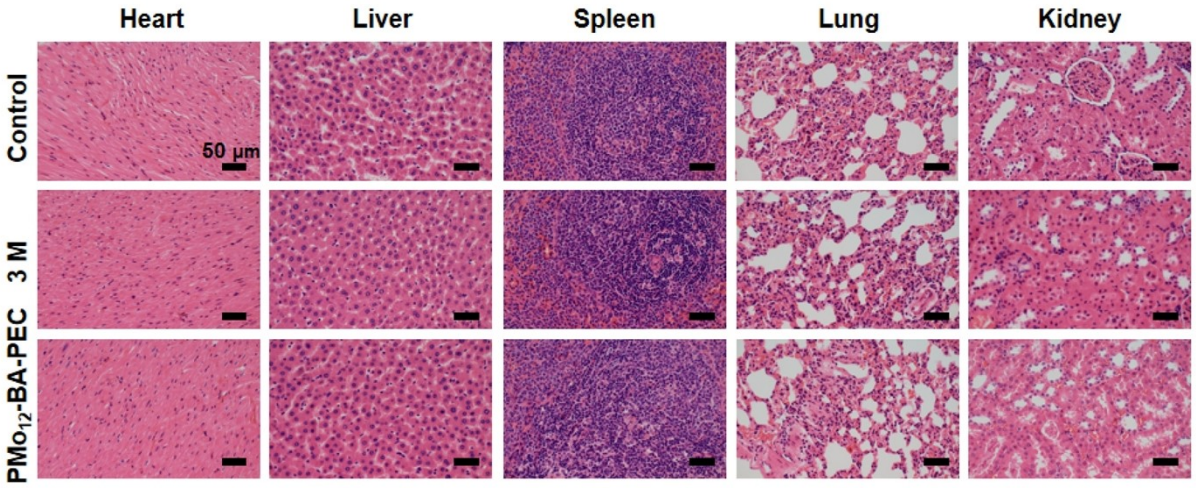

Figure S15. H&E stained slices of heart, liver, spleen, lung, and kidney on day 12 in control, 3 M, and PMo_{12}-BA-PEC hydrogel (scale bars, 50 μm).

Table 1. Primer sequences used in q-RT-PCR.

Gene	Primer	Primer sequences (5'-3')
GAPDH	Forward	ATGGGTGTGAACCACGAGA
	Reverse	CAGGGATGATGTTCTGGGCA
VEGF	Forward	GCACCCACGACAGAAGGAG
	Reverse	GCATCAGCGGCACACAGGA
CD86	Forward	AAGGACATGGGCTCGTATGA
	Reverse	GTGACCTTGCTTAGACGTGC
CD206	Forward	CTTGTAGGAAGGAGGGTGGG
	Reverse	GGGTTCCATCACTCCACTCA