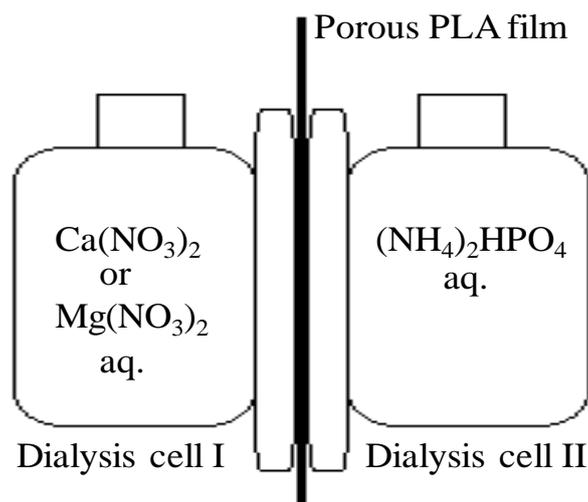


## Porous polylactide prepared by the delocalized crazing as a template for nanocomposite materials

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### *Method for the preparation of nanocomposites*

A semicrystalline PLA film sized of 50 mm×40 mm (length and width, respectively) was stretched in the presence of ethanol to the tensile strain of 100% to prepare a porous polymer matrix according to the delocalized crazing mechanism. Then, the deformed film was fixed along the perimeter in special clamping frame and kept for 1 h in deionized water to replace EtOH. The wet porous matrix was used as a template to precipitate either calcium or magnesium phosphates *via* an exchange reaction, using the counterflow diffusion method. For this purpose, the porous film was clamped between the dialysis cells (Figure S1), which were subsequently filled with aqueous solutions ( $0.5 \text{ mol dm}^{-3}$ ) of  $(\text{NH}_4)_2\text{HPO}_4$  and  $\text{Ca}(\text{NO}_3)_2$  or  $\text{Mg}(\text{NO}_3)_2$ . The precipitation was performed at  $\text{pH} = 5\div 6$  and room temperature for 24 h. After the completion of reaction, the polymer film was washed with deionized water and dried under isometric conditions at room temperature until the constant mass.



**Figure S1** Schematic representation of the experimental setup used for obtaining nanocomposites based on PLA film according to the counterflow diffusion method.