INTRODUCTION
Preparation of polymer nanocomposites is nowadays an important research subject since polymer properties can be enhanced and their range of applications extended by using molecular or nanoscale reinforcements rather than conventional fillers. Poly(ester amide) s constitute a promising family of materials with some advantages associated with the hydrophilic character of their amide groups and the ability to establish strong hydrogen bond interactions that may influence both thermal and mechanical properties. Furthermore, the presence of ester groups should ensure degradability, although at a lower rate than in parent polyesters. C25A organo-modified montmorillonite has proved to be effective for the preparation of nanocomposites from the degradable alternating poly(ester amide) constituted by glycolic acid and 6-aminoheptanoic acid units (poly(glc-alt-amh)) by the in situ polymerization technique.

MELT CRYSTALLIZATION OF THE NEAT POLY(ESTER AMIDE) AND ITS NANOCOMPOSITE WITH C25A
The spherical radial growth rates (G) of the neat poly(glc-alt-amh) sample and its nanocomposite with C25A were determined by means of the evolution of the spherulite radius versus time (Figure 3a).

ISOTHERMAL POLYMERIZATION STUDY
For all assayed temperatures the polymerization process of the neat monomer was faster than for its nanocomposite with C25A. Polymerization kinetics was evaluated by both, WAXD and FTIR experiments following the diffraction intensity of the (110) NaCl reflection or the time evolution of the 1741 cm\(^{-1}\) absorption band of the ester group, respectively (Figures 6 and 7). The activation energy and the frequency factor for the polymerization were derived by assuming an Arrhenius-type dependence on temperature for the kinetic constant (Figure 8).

NONISOTHERMAL POLYMERIZATION STUDY
Synchrotron experiments were performed to gain insight the nonisothermal polymerization process (Figure 4). X-ray profiles clearly showed that all diffraction peaks were shifted to lower angles when temperature was increased, as expected from the thermal expansion of the unit cell. The profiles showed two peaks at 2\(\theta\) ~ 19 and 22° corresponding to the (100) and (110) reflections of the NaCl structure (~ 0.326 and 0.282 nm, respectively) and different peaks in the 14-17° 2\(\theta\) range corresponding to the monomer structure. The intensity of the NaCl peaks started to increase and, at the same time, the monomer peaks gradually became weaker. Finally, an amorphous halo and small peaks attributed to (hk0) reflections of the clay were observed when temperature reached a value close to 190 °C. The polymerization finished in an amorphous or liquifed state since at this temperature the intensity of NaCl did not reach the asymptotic value that corresponds to the maximum amount of NaCl that could be formed.

CONCLUSIONS
- C25A organo-modified montmorillonite has proved to be effective for the preparation of nanocomposites of the degradable alternating poly(ester amide) constituted by glycolic acid and 6-aminoheptanoic acid units by the in situ polymerization technique.
- The temperature dependence of the polymerization kinetic constant allowed inferring that kinetic differences between the polymerization of the neat monomer and its mixture with C25A could be attributed to the preexponential frequency factor.