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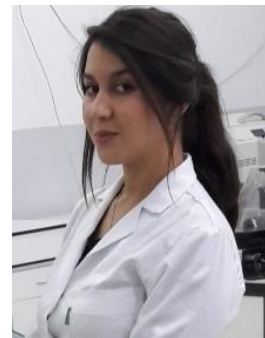
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### Polymorphic behavior of hemisynthetic triglyceride-based ingredients intended for pharmaceutical products.

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Triglycerides are lipid molecules widely used in the pharmaceutical industry [1], especially in the production of vaginal and rectal dosage forms [2]. Vaginal formulations have a great interest in drug delivery for both local and systemic therapies. Since the vagina allows the release of higher concentrations, minimize the systemic side effects when aiming at a local treatment, and avoid the first hepatic passage and the gastrointestinal side effects [3].

Hemi-synthetic glycerides, principally triglycerides constitute the lipidic matrix used for the formulation of pessaries nowadays. These triglycerides are generally mixtures of three fatty acid molecules with an even number of carbon atoms and one glycerol molecule. In the solid state, they are organized in different crystalline or polymorphic forms (three crystalline varieties  $\alpha$ ,  $\beta$  and  $\beta'$  in order of increasing stability) hence their very complex thermal behavior [4].

This study focuses on the thermal and structural study of triglycerides pharmaceutical excipients in order to determine their crystalline forms using two techniques (X-ray diffraction "DRX" and differential scanning calorimetry "DSC").

The findings showed the presence of three polymorphs for the samples studied, with a predominance of the  $\beta'$  polymorphic form.

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