

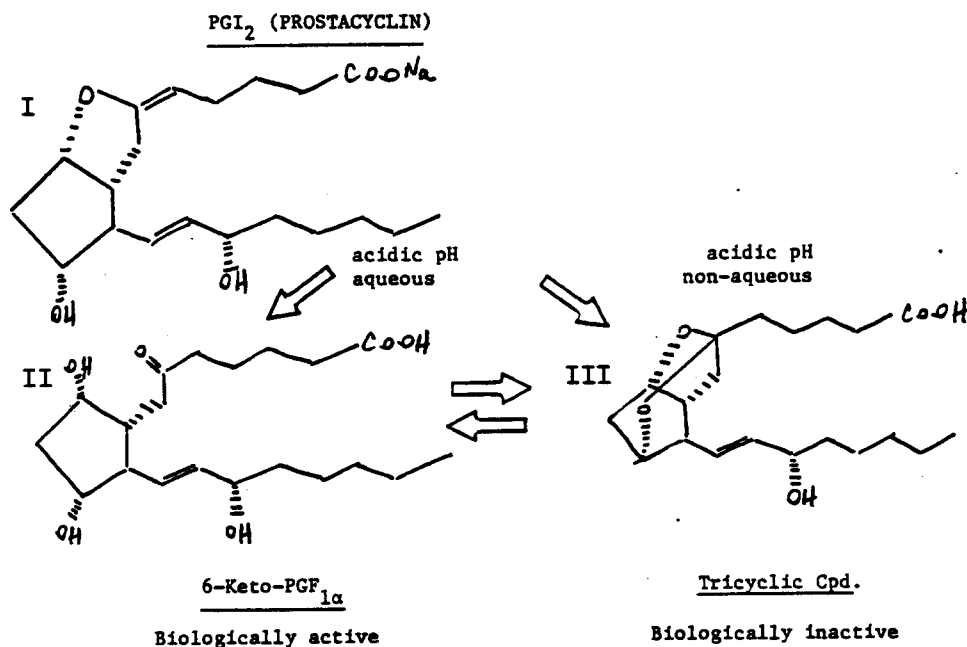
Waters

Lab Highlights

PROSTAGLANDINS
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MOBILE PHASE EFFECTS UPON ACCURATE ANALYSIS OF PROSTACYCLIN (PGI_2)

Prostacyclin, PGI_2 , a recently discovered type of prostaglandin, has been found to have therapeutic value in the treatment of cardiovascular and thrombotic disorders. A report (1) demonstrated that stability of prostacyclin is pH dependant and that it can react with primary alcohols to form products which interfere with HPLC analysis. A mechanism showing possible reaction products is shown below:



Either compound, PGI_2 (I) or 6-Keto- $\text{PGF}_{1\alpha}$ (II), has been shown to react with methanol and form reaction products separable by LC. An example of this is shown in the chromatogram on the reverse side of this page where a solution of the pure 6-Keto standard (II) was injected. The 6-Keto compound (II) was incubated in 10% methanol, Figure 1(a), and in 50% methanol, Figure 1(b), for a few minutes and then chromatographed in an aprotic mobile phase of acetonitrile/buffer. These experiments and those previously reported (1) confirmed that the early eluting compounds were indeed artifacts and could be mistaken for impurities in the standard if an alcoholic mobile phase were used. The chromatographic conditions for Figure 1 are shown on the reverse side.

(1) Wynalda, M. A. Lincoln, F. H. and F. A. Fitzpatrick, J. Chromatography, 176, 413-417 (1979)