The addition of tetrasodium pyrophosphate causes an increase in the initial value of pH of artificial urine. During our crystallization experiments the initial values of pH were equal to 6.12, 6.16, 6.22, 6.32 and 6.66 for concentrations of tetrasodium pyrophosphate equal to 0, 0.25, 0.5, 1.0 and 2.5 mg/ml, respectively. The changes in initial value of pH can be explained on the basis of theoretical chemical analysis. Presence of tetrasodium pyrophosphate \( \text{Na}_4\text{P}_2\text{O}_{7} \) in the solution of artificial urine causes the splitting of \( \text{Na}_4\text{P}_2\text{O}_{7} \) into the \( \text{Na}^+ \) and \( \text{P}_2\text{O}_{7}^{4-} \) ions. This process takes place according to the following reaction:

\[
\text{Na}_4\text{P}_2\text{O}_{7} \rightarrow 4\text{Na}^+ + \text{P}_2\text{O}_{7}^{4-}. \tag{S1}
\]

As a result of reaction S1 in the solution of artificial urine, the \( \text{P}_2\text{O}_{7}^{4-} \) ion appears. Then the multi-stage hydrolysis processes take place. These processes occur according to the following reactions:

\[
\begin{align*}
\text{P}_2\text{O}_{7}^{4-} + \text{H}_2\text{O} & \leftrightarrow \text{HP}_2\text{O}_{7}^{3-} + \text{OH}^- , \tag{S2} \\
\text{HP}_2\text{O}_{7}^{3-} + \text{H}_2\text{O} & \leftrightarrow \text{H}_3\text{P}_2\text{O}_{7}^{2-} + \text{OH}^- , \tag{S3} \\
\text{H}_3\text{P}_2\text{O}_{7}^{2-} + \text{H}_2\text{O} & \leftrightarrow \text{H}_4\text{P}_2\text{O}_{7}^- + \text{OH}^- , \tag{S4} \\
\text{H}_2\text{P}_2\text{O}_{7}^{2-} + \text{H}_2\text{O} & \leftrightarrow \text{H}_4\text{P}_2\text{O}_{7}^- + \text{OH}^- . \tag{S5}
\end{align*}
\]

It is seen that all these reactions may lead to the increase in pH value. The changes in concentrations of the \( \text{HP}_2\text{O}_{7}^{3-} \), \( \text{H}_3\text{P}_2\text{O}_{7}^{2-} \), \( \text{H}_3\text{P}_2\text{O}_{7}^- \) ions and the \( \text{H}_4\text{P}_2\text{O}_{7}^- \) molecule taking part in the reactions S2-S5 are presented in Fig. S1. Typical initial value of pH of artificial urine equals about 6.0. From Fig. S1, it follows that for pH about 6.0 the \( \text{HP}_2\text{O}_{7}^{3-} \) ion reaches the highest
concentration. This means that the increase in initial value of pH observed during our experiments is caused by the hydrolysis of the \( \text{P}_2\text{O}_7^{4-} \) ion and the formation of the \( \text{HP}_2\text{O}_7^{3-} \) ion (reactions S2). This process leads to the increase in concentration of the \( \text{OH}^- \) ions in the solution of artificial urine and in this way the initial pH is increased. Additionally, increasing concentration of tetrasodium pyrophosphate causes the increase in concentration of the \( \text{P}_2\text{O}_7^{4-} \) ion (Fig. S2). In this way the initial value of pH increases with increasing amount of tetrasodium pyrophosphate present in artificial urine.

**Fig. S1.** Dependence of the concentration of different complexes formed at the participation of the \( \text{P}_2\text{O}_7^{4-} \) ion for different concentrations of tetrasodium pyrophosphate given in the inset.

**Fig. S2.** Dependence of the concentration of the \( \text{P}_2\text{O}_7^{4-} \) ion on pH of artificial urine for different concentrations of tetrasodium pyrophosphate given in the inset.