ブリリアントブルーFCF を用いた生分解性樹脂の加水分解経過の追跡

（東邦大学[1]）○川本健悟[1]・杉山和也[1]・渡邊総一郎[1]・今井泉[1]
Tracking the Hydrolysis Process of Biodegradable resins Using Brilliant Blue FCF([1]*Toho university*)○Kengo Kawamoto[1], Kazuya Sugiyama[1], Soichiro Watanabe[1], Izumi Imai[1]

In this study, we use absorptiometry to demonstrate how we can visualize and quantify hydrolysis by tracking outflowing pigment from biodegradable resins (BR) to liquid the phase. A BR containing Brilliant Blue FCF was molded into a film, which was hydrolyzed under basic conditions (pH 8.2). For the BR, a resin component derived from lac insects was used. The liquid phase obtained after the reaction was measured for absorbance. As a result, the absorbance increased according to the reaction time due to the increase in the amount of pigment contained in the liquid phase. Furthermore, when the mass of BR used in the reaction was measured, a strong correlation with the absorbance was confirmed, indicating that it has become possible to track the hydrolysis reaction in a simpler way (Fig. 1).
Keywords : Chemistry in secondary school, Hydrolysis reaction, Biodegradable resins

本研究では、色素を含んだ生分解性樹脂の加水分解によって生じる液相への色素の流出を吸光光度法で追跡することにより、反応の視覚化・定量化を達成した。

具体的には、ブリリアントブルーFCF を含有させたラックカイガラムシ由来の樹脂成分をフィルム状に成型し、pH8.2 の塩基性条件下で加水分解した場合、経過時間に応じて吸光度の増加が確認できた。さらに、反応に用いられる生分解性樹脂の質量を測定したところ、吸光度と強い相関関係が確認でき、より簡易的な方法で加水分解反応を追跡できることが明らかになった（Fig. 1）。

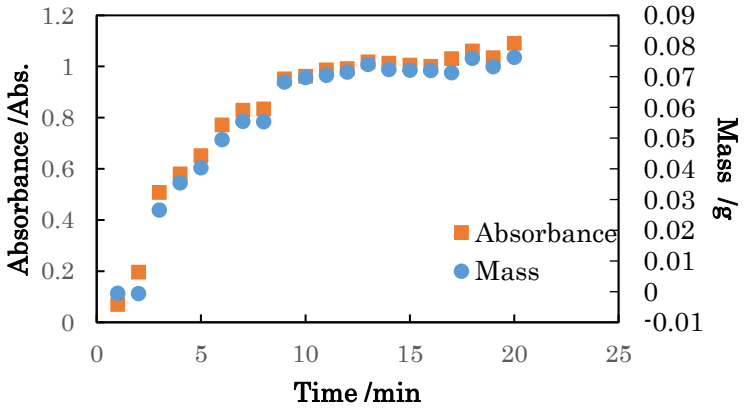

Fig. 1 Correlation between absorbance and mass