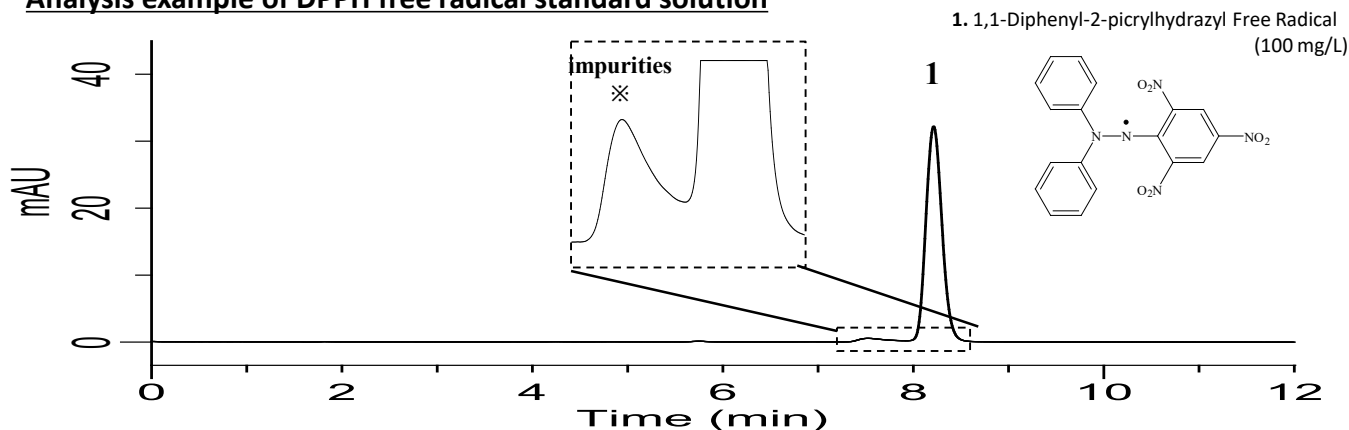


Analysis of stable radical DPPH

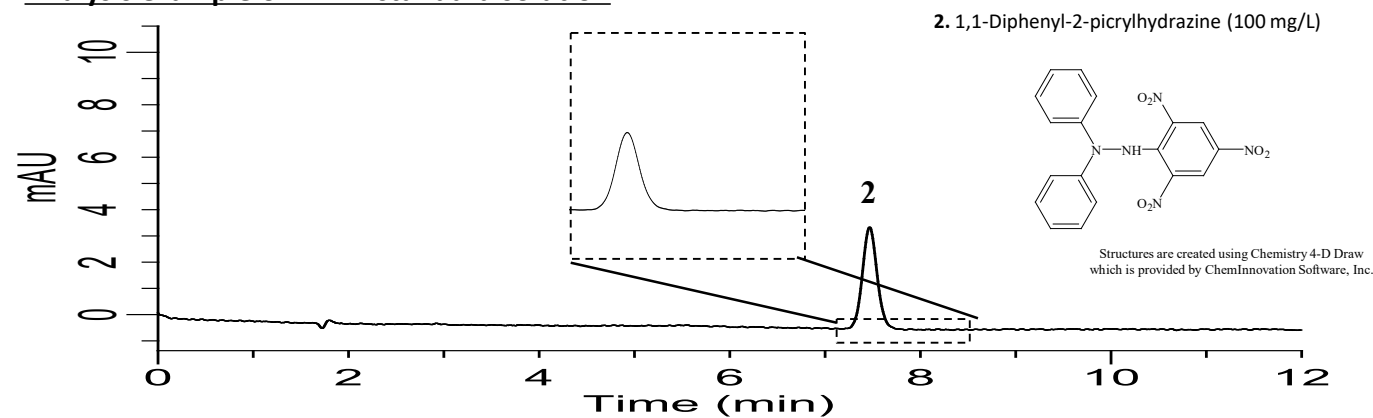
Here we introduce the analysis of the 1,1-diphenyl-2-picrylhydrazyl free radical (DPPH radical), which is known as a stable radical. When analyzed using reversed-phase HPLC, a peak should be 1,1-diphenyl-2-picrylhydrazine (DPPH) was detected as a DPPH radical impurity. For this reason, we checked the retention time and the UV-VIS spectrum obtained with a diode array detector. Acetonitrile dehydrated with molecular sieves was used for sample dilution.

From the calibration curve and the chromatogram at low concentration, a certain amount was decomposed before injection, and it was confirmed that it changed even in the HPLC system. (K. Suzuki)

Analysis example of DPPH free radical standard solution

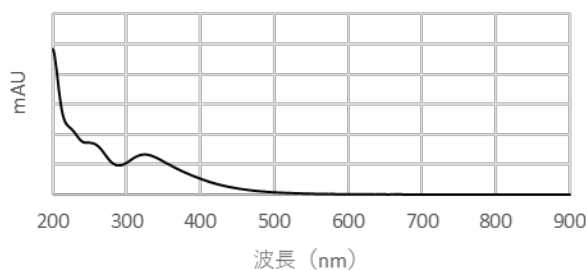
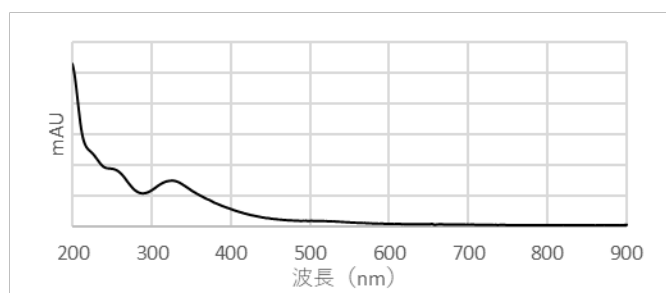
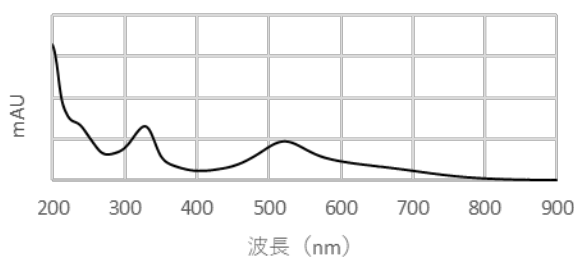


Analysis example of DPPH standard solution



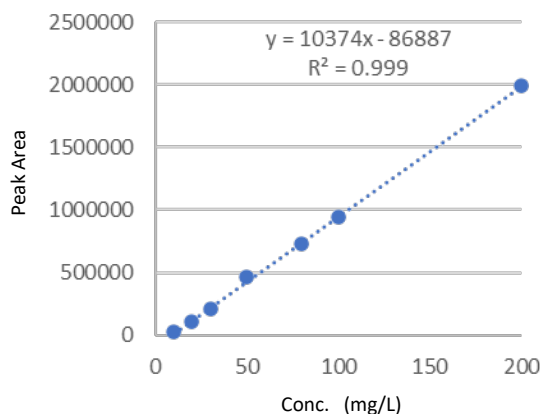
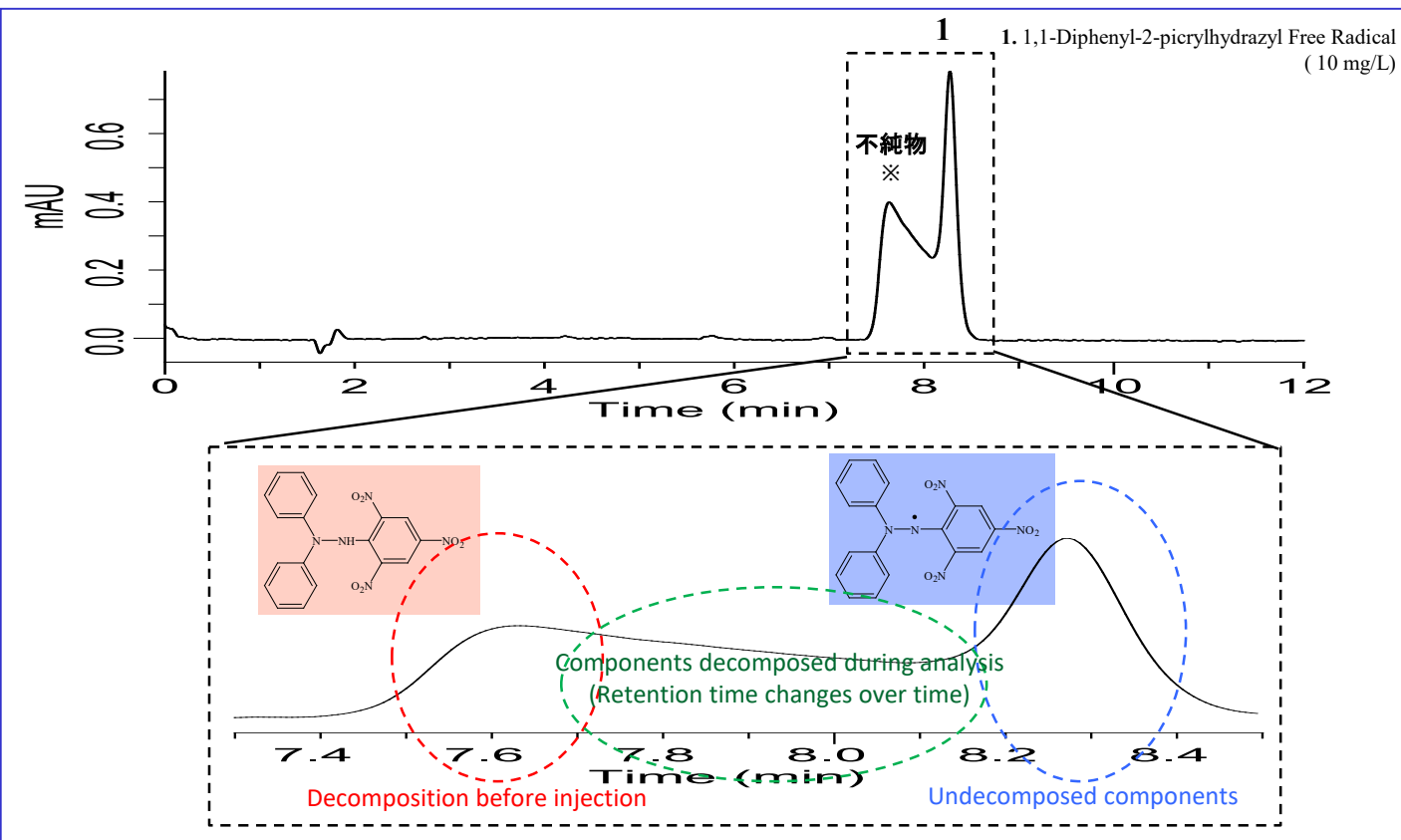
HPLC Condition

Column : InertSustainSwift C8 (5 μ m, 150 \times 4.6 mm I.D.)
 Cat. No. : 5020-88331
 Eluent : A) CH₃CN
 B) H₂O
 A/B = 55/45, v/v
 Flow rate : 1.0 mL/min
 Col.Temp. : 40 $^{\circ}$ C
 Detection : VIS 540 nm (DAD)
 Inj.Vol. : 10 μ L



An example of analysis of DPPH free radicals at low concentrations is shown. Impurity (*) peaks appear to be tailing, but since no tailing was observed with the standard product on the previous page, it is presumed to be decomposition within the HPLC.

Analysis example of DPPH free radical standard 10 mg/L



DPPH free radical calibration curve

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