



PROCEEDINGS OF UZBEKISTAN-CHINA INTERNATIONAL SYMPOSIUM ON "CURRENT ISSUES IN THE CULTIVATION AND UTILIZATION OF MEDICINAL PLANTS"

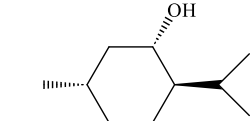
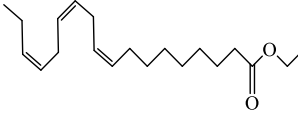
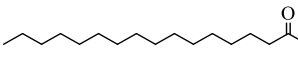
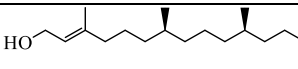
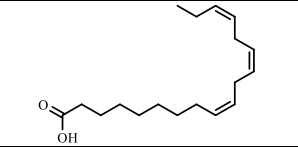
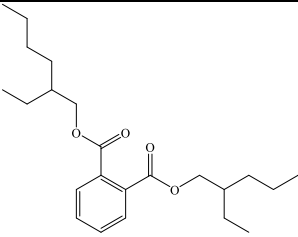


Tashkent, June 18-19, 2026

<https://doi.org/10.5281/zenodo.21356314>

Table 1

Chemical composition of the hexane fraction of *O. macrocarpa*

RT (min)	Compounds	Molecular structure	Formula	CAS number
16,031	Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1 α ,2 β ,5 α)-		C ₁₀ H ₂₀ O	015356-70-4
18,803	9,12,15-Octadecatrienoic acid, ethyl ester, (Z,Z,Z)-		C ₂₀ H ₃₄ O ₂	001191-41-9
46,515	n-Hexadecanoic acid		C ₁₆ H ₃₂ O ₂	000057-10-3
50,911	Phytol		C ₂₀ H ₄₀ O	000150-86-7
51,833	9,12,15-Octadecatrienoic acid		C ₁₈ H ₃₀ O ₂	000463-40-1
62,739	Bis(2-ethylhexyl) phthalate		C ₂₄ H ₃₈ O ₄	000117-81-7

References

1. Sh. Sulaymonov, Sh. Abdullayev, B. Qoraboyeva (2019). *Oxytropis rosea* o'simligining efir moylari tarkibi НамДУ илмий ахборотномаси - Научный вестник 11, 38-42
2. S.A.Sulaymonov, B.J.Komilov, K.A.Eshbakova, G.O.Mamajanov and S.V.Abdullayev, Chem. Nat. Compd. 59 (5), 937 (2023). <https://doi.org/10.1007/s10600-023-04155-9>

**G-C₃N₄/TiO₂ COMPOSITE FOR EFFICIENT PHOTOCATALYTIC
DEGRADATION OF ORGANIC POLLUTANTS UNDER VISIBLE LIGHT
ILLUMINATION**

Neda Tabassum¹, Zeba Ali Mumtaj², Qazi Inamur Rahman*

Department of Chemistry, Integral University, Lucknow, Uttar Pradesh 226026, India

Corresponding author email: qaziinamur06@gmail.com

Abstract. A novel pathway for effective environmental remediations has recently been opened by the combination of TiO₂ and graphitic carbon nitride (g-C₃N₄). With varying g-C₃N₄ compositions, TiO₂ characteristics namely its optical band gap energy

and ability to collect visible light irradiations while being unable to do so on its own fluctuate dramatically. In addition, the g-C₃N₄/TiO₂ composite improves stability, porosity and electron mobility. The purity and crystallinity of the composite are analyzed using several analytical techniques such as X-ray diffraction Energy dispersive spectroscopy and Fourier transform infrared spectroscopy, while the shape of the composite is revealed by SEM and TEM. The fabrication of the g-C₃N₄/TiO₂ composite which may simplify the transfer process of photo-excited carriers and hence delay their recombination rate can significantly increase the photocatalytic degradation of organic contaminants from the environment.

Keywords: Graphitic carbon nitride, Titanium Dioxide, g-C₃N₄-TiO₂ composite

Reference

1. Giannakopoulou, T., Papailias, I., Todorova, N., Boukos, N., Liu, Y., Yu, J. and Trapalis, C., 2017. Tailoring the energy band gap and edges' potentials of g-C₃N₄/TiO₂ composite photocatalysts for NO_x removal. *Chemical Engineering Journal*, 310, pp.571-580.
2. Hao, R., Wang, G., Jiang, C., Tang, H. and Xu, Q., 2017. In situ hydrothermal synthesis of g-C₃N₄/TiO₂ heterojunction photocatalysts with high specific surface area for Rhodamine B degradation. *Applied Surface Science*, 411, pp.400-410.
3. Lin, Y., Shi, H., Jiang, Z., Wang, G., Zhang, X., Zhu, H., Zhang, R. and Zhu, C., 2017. Enhanced optical absorption and photocatalytic H₂ production activity of g-C₃N₄/TiO₂ heterostructure by interfacial coupling: A DFT+ U study. *International Journal of Hydrogen Energy*, 42(15), pp.9903-9913.
4. Wei, X.N., Wang, H.L., Wang, X.K. and Jiang, W.F., 2017. Facile fabrication of mesoporous g-C₃N₄/TiO₂ photocatalyst for efficient degradation of DNBP under visible light irradiation. *Applied Surface Science*, 426, pp.1271-1280.
5. Zhou, X., Shao, C., Li, X., Wang, X., Guo, X. and Liu, Y., 2018. Three dimensional hierarchical heterostructures of g-C₃N₄ nanosheets/TiO₂ nanofibers: controllable growth via gas-solid reaction and enhanced photocatalytic activity under visible light. *Journal of hazardous materials*, 344, pp.113-122.

FOSFOLIPIDLAR VA FITOKOMPONENTLAR ASOSIDAGI SINERGETIK GEPATOPROTEKTOR KOMPOZITSIYANI YARATISH

A.I. Sanoyev, Sh.K. Xidoyatova, Sh.Sh. Sagdullayev

O'zbekiston Respublikasi Fanlar akademiyasi S.Yu. Yunusov nomidagi O'simlik moddalari kimyosi instituti, Toshkent 100170, O'zbekiston.

*Mas'ul muallif: sanoev.a85@mail.ru

Annotatsiya. Tadqiqotda fosfolipidlar va o'simlik manbalaridan olingan biologik faol moddalar asosida gepatoprotektor xususiyatga ega bo'lgan «Gepalipin» kompozitsiyasini yaratish texnologiyasi ishlab chiqildi. Kompozitsiya tarkibiga farmatsevtik tozalangan soya letsitini, pomidor po'stlog'idan ajratib olingan likopin,