Product Specification

AIE™ pH

Product Description

- This product can indicate pH.
- As compared with the widely-used pH dyes on the market, the product has an especially broad response range of pH.

- Demonstrations

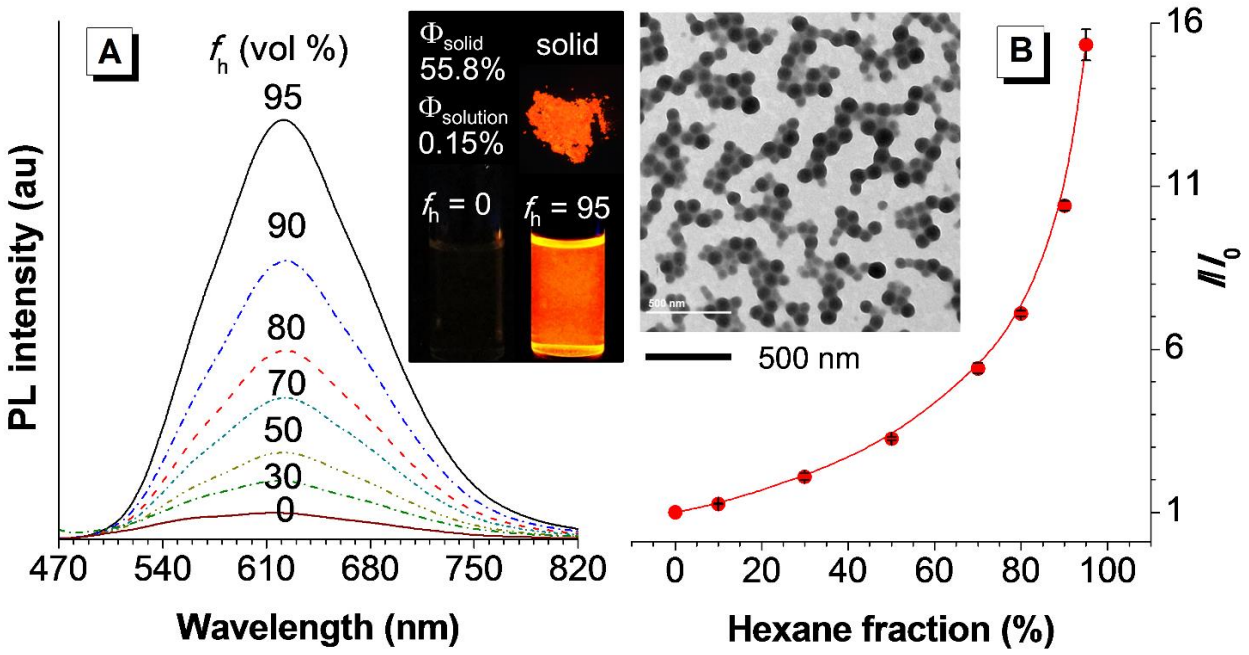

Figure 1: Aggregation-induced emission properties of AIE™ pH

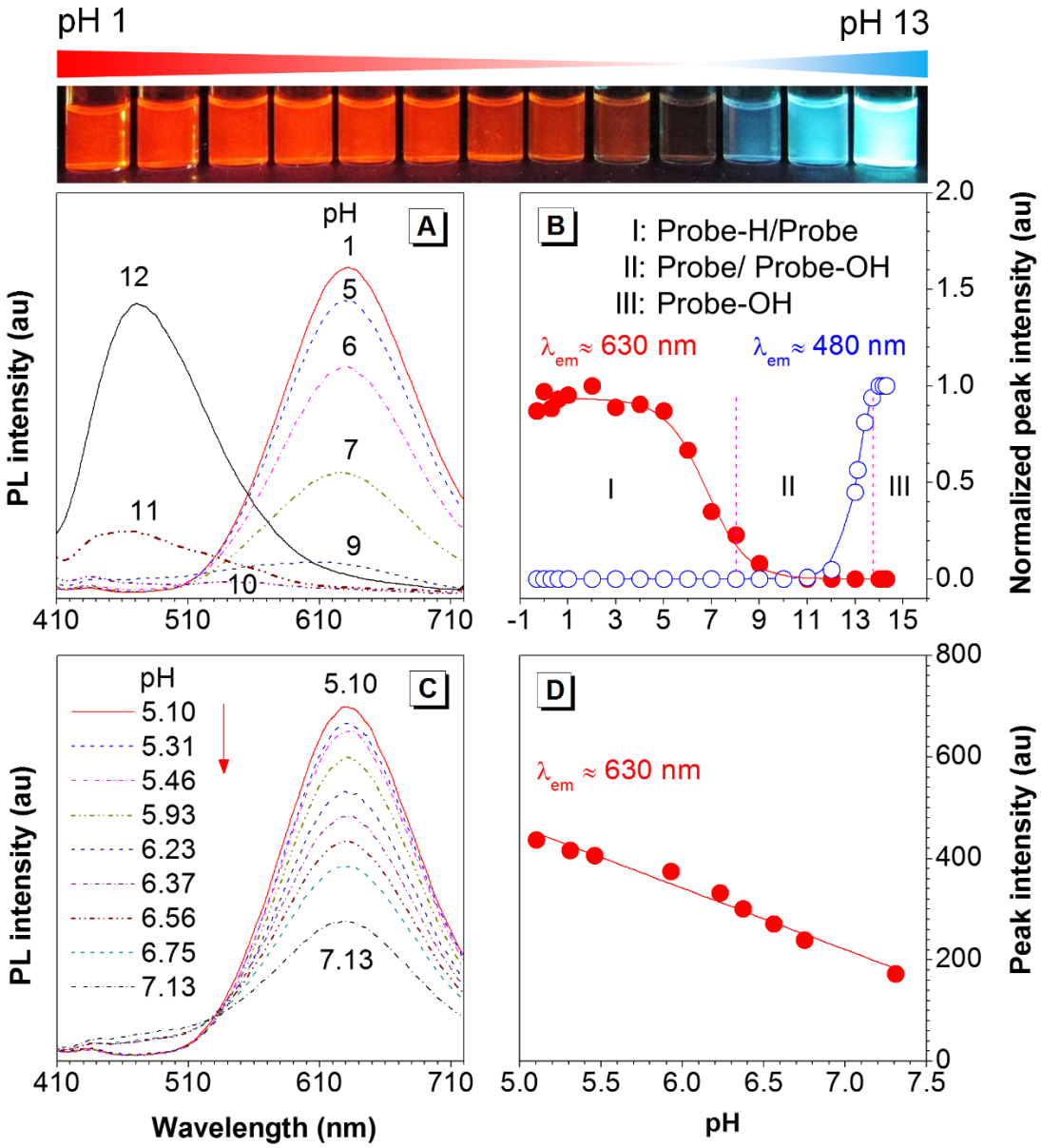

Figure 2: pH responses in aqueous phase

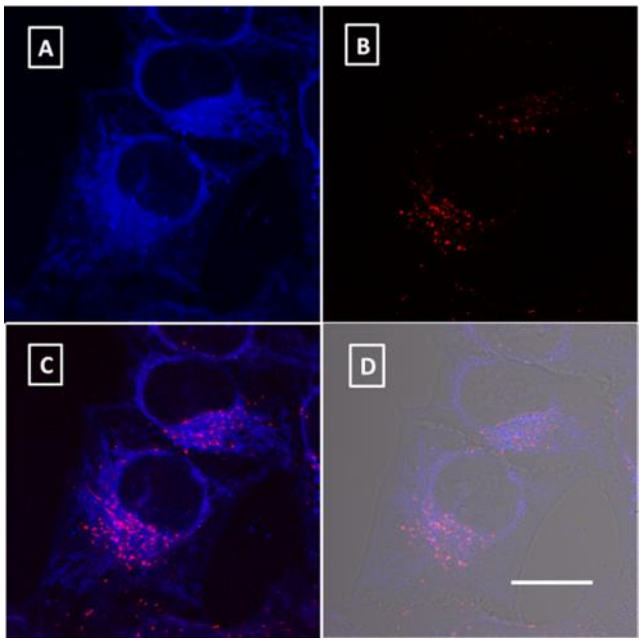

Figure 3: Cell staining.

Recommended storage condition

Store away from sunlight at 2-8 °C

Product parameters

Purpose	pH sensor
Color:	Red
Imaging platform:	Fluorescence microscope Confocal microscope Flow cytometry and et, al
Pack size and quantity:	10 μmol
Detection method:	Fluorescence
Excitation/ Emission (nm):	Channel 1: 405/440 - 525 Channel 2: 488/561 - 659
Recommended transport condition:	Room temperature
Product declaration:	Only used for research. Do not apply to any detection procedure.

AIEgen Probe for pH Sensing

Introduction

- This product can indicate pH value from 1 to 13 with red to blue fluorescent emission shifting.
- This product can also be used for living cell pH mapping
- After incubation with this product in cell, the pH of the stained cell can be observed under UV illumination

Channel 1: Excitation/Emission = 405 / 440 - 525 nm

Channel 2: Excitation/Emission = 488 / 561 - 659 nm

Material Preparation and Visualization Recommendation

- **Stock solution prepare:** AIE™ pH (10 mM) stock solution is prepared with the 10 μmol of AIE™ pH in 1 mL DMSO. Further dilute with 1000 times to get the working concentration at 10 μM.

Before Your Experiment, You might NEED

1. DMSO
2. PBS 7.4 buffer
3. Milliphore water
4. Suitable culture media

Protocol (Recommended)

Cell Culture

HeLa cells were cultured in minimum essential medium containing 10 % fetal bovine serum and antibiotics (100 units/mL penicillin and 100 μg/mL streptomycin) in a 5 % CO_2 humidity incubator at 37 °C.

Cell Staining and Imaging

1. Hela cells are seeded in a 35-mm petri dish with a glass cover slide.
2. After overnight culture, cells were stained with the working concentration of 10 μM AIE™ pH for 2 hours.
3. Wash the cells with phosphate buffed saline (PBS) (pH 7.4) solution for three times. Ready to do imaging using confocal microscope.
4. Confocal imaging condition is recommended as follows:

Channel 1: Excitation/Emission = 405 / 440 - 525 nm
Channel 2: Excitation/Emission = 488 / 561 - 659 nm

Reference

1. S. Chen, and B. Z. Tang "An AIE-active Hemicyanine Fluorogen with Stimuli-responsive Red/Blue Emission: Extending the pH Sensing Range by 'Switch + Knob' Effect" *Chem. Sci.*, **2012**, 3, 1804-1809
2. S. Chen and B. Z. Tang "Full-Range Intracellular pH Sensing by an Aggregation-Induced Emission-Active Two-Channel Ratiometric Fluorogen" *J. Am. Chem. Soc.*, **2013**, 135 (13), 4926–4929
3. Optical information and suggested storage conditions:

Item	Ex/Em	Qty	Storage Condition*
AIE™ pH	405/440-525 nm 488/561-659 nm	10 μmol	• 2-8 ℃ (Upon receive this product) • Avoid Light • Keep Dry

* Remember to warm up to room temperature upon opening the vial