Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supplementary information

A Far Red Emissive RNA Aptamer-Fluorophore System for Demethylase FTO Detection: Design and Optimization

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Supplementary Fig. S1

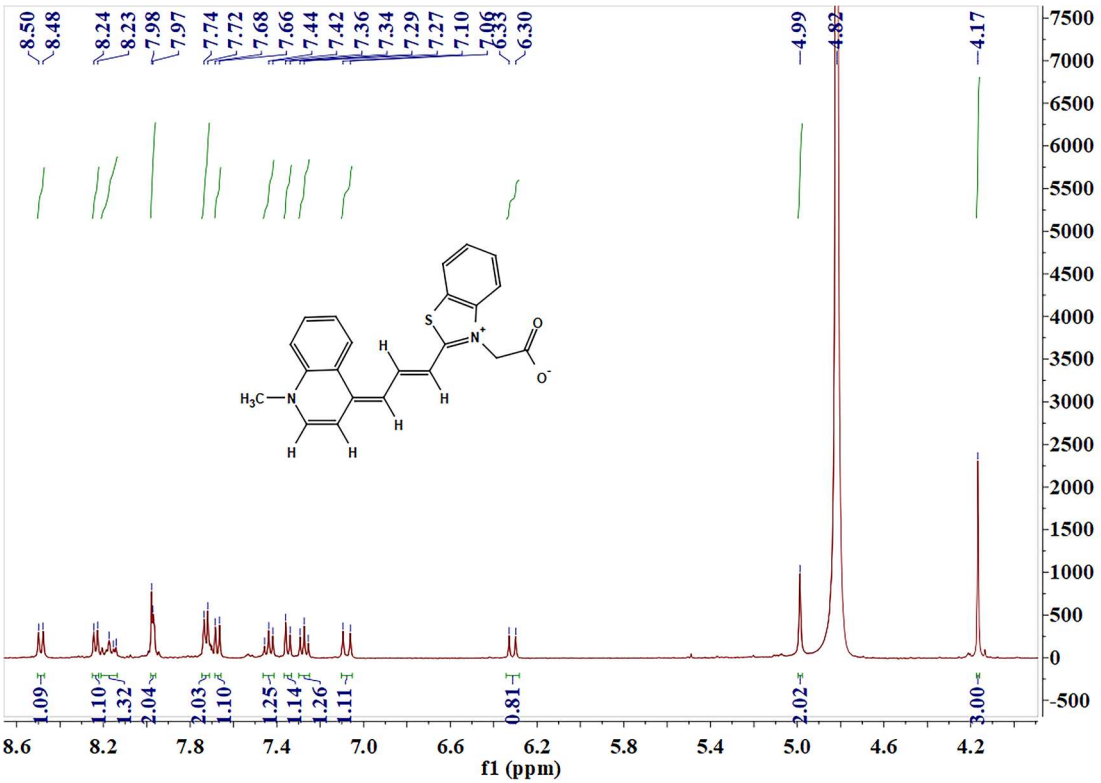

Fig. S1. ^{1}H NMR spectrum of **TO3-Acetate** in MeOD.

Supplementary Fig. S2

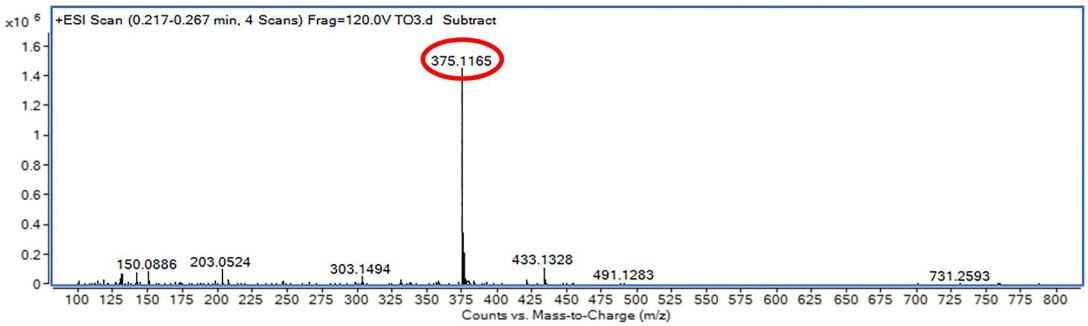

Fig. S2. ESI-MS spectrum of **TO3-Acetate.**

Supplementary Fig. S3

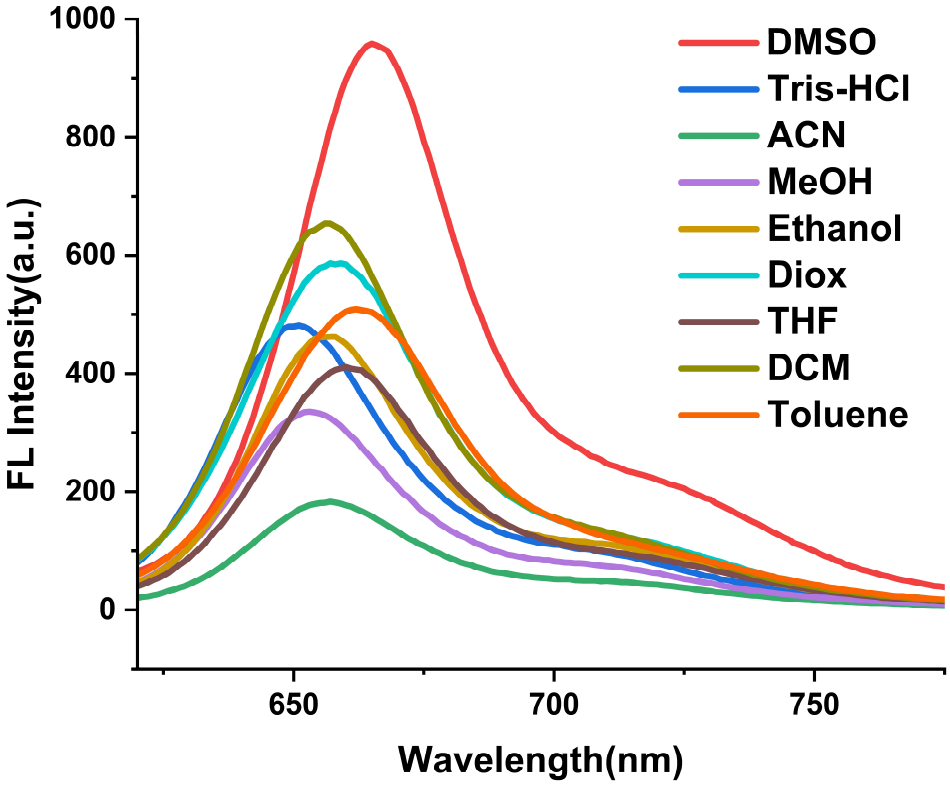

Fig. S3. Fluorescence spectra of TO3-Acetate (5 μM) in different solvents. λex/em=600/650nm.

Supplementary Fig. S4

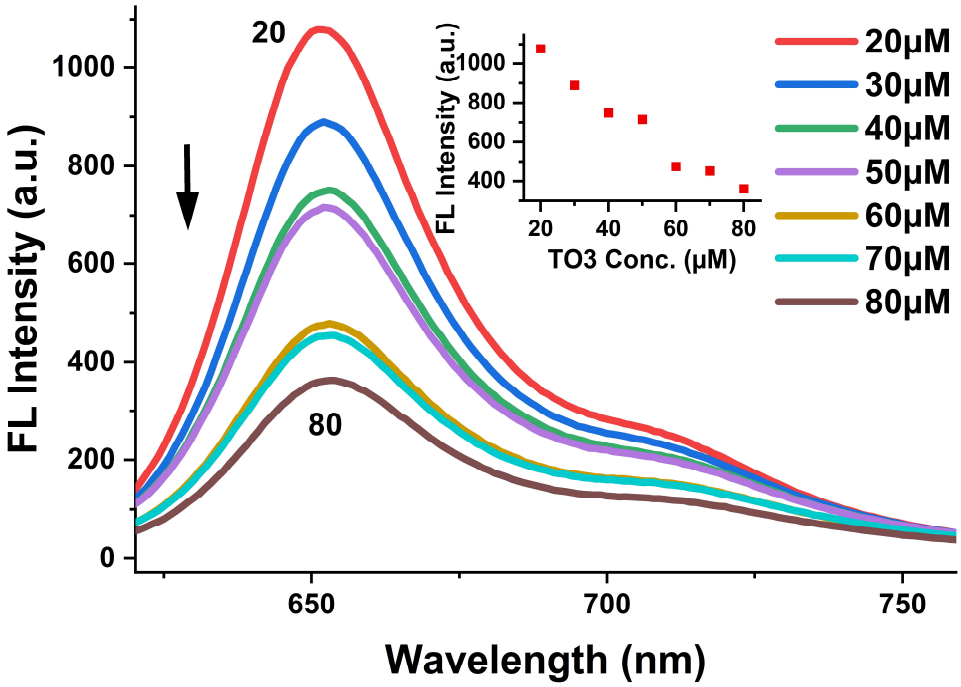

Fig. S4 The increasing TO3-Acetate results in changes to the fluorescence spectra. The inset displays the tendency for fluorescence intensity to vary when TO3-Acetate concentrations are varied from 20 to 80 μM at 650 nm.

Supplementary Fig. S5

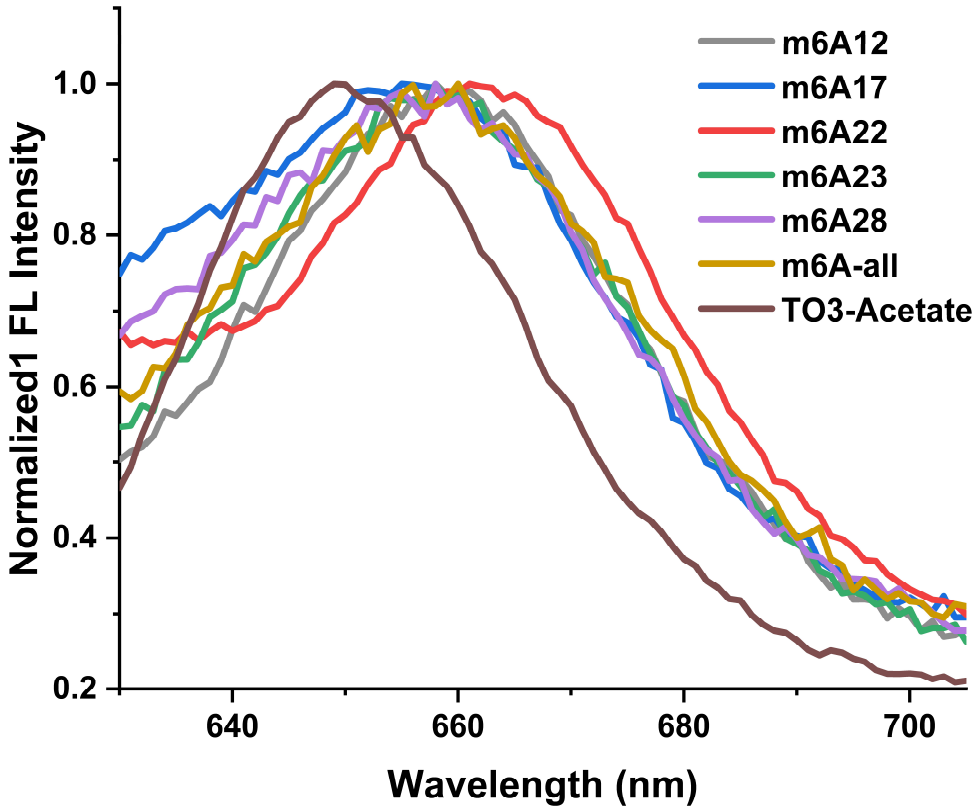

Fig. S5 Normalized Mango-m6A-TO3 fluorescence spectra.

Supplementary Fig. S6

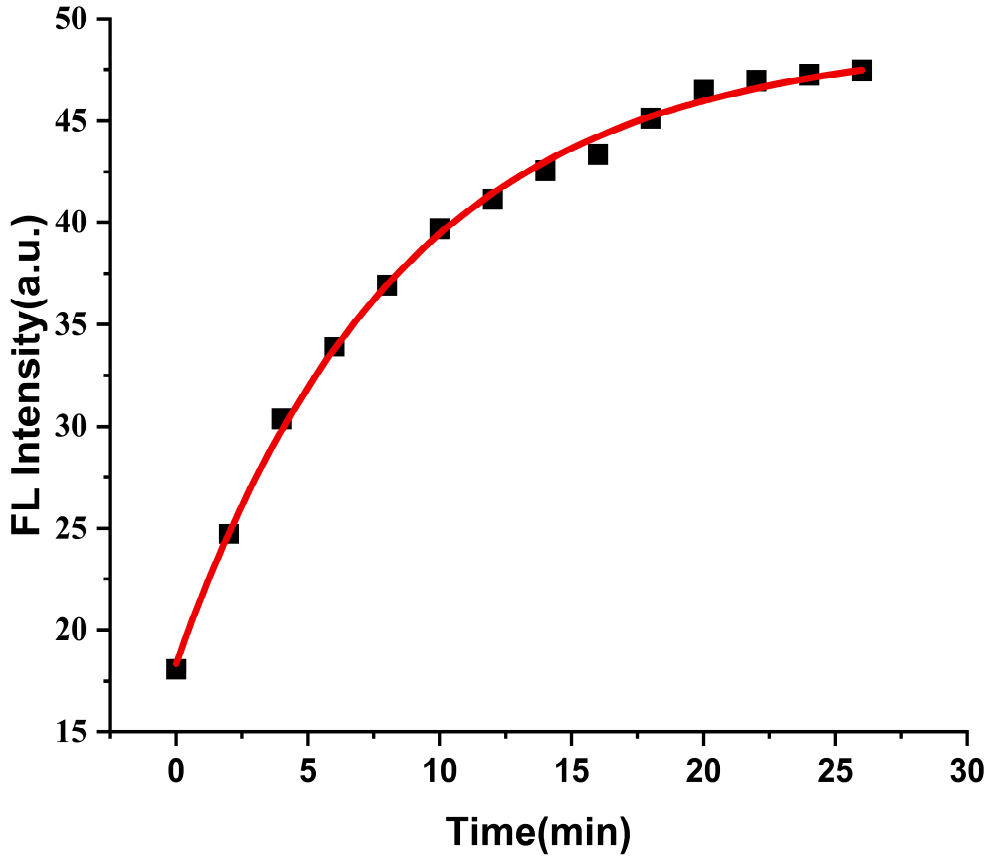

Fig. S6: Real-time fluorescence intensity monitoring of TO3-Acetate and Mango-m6A22 reaction. Experimental conditions: 50 nM TO3-Acetate, 50 nM Mango-m6A22. λex/em=600/660nm.

Supplementary Fig. S7

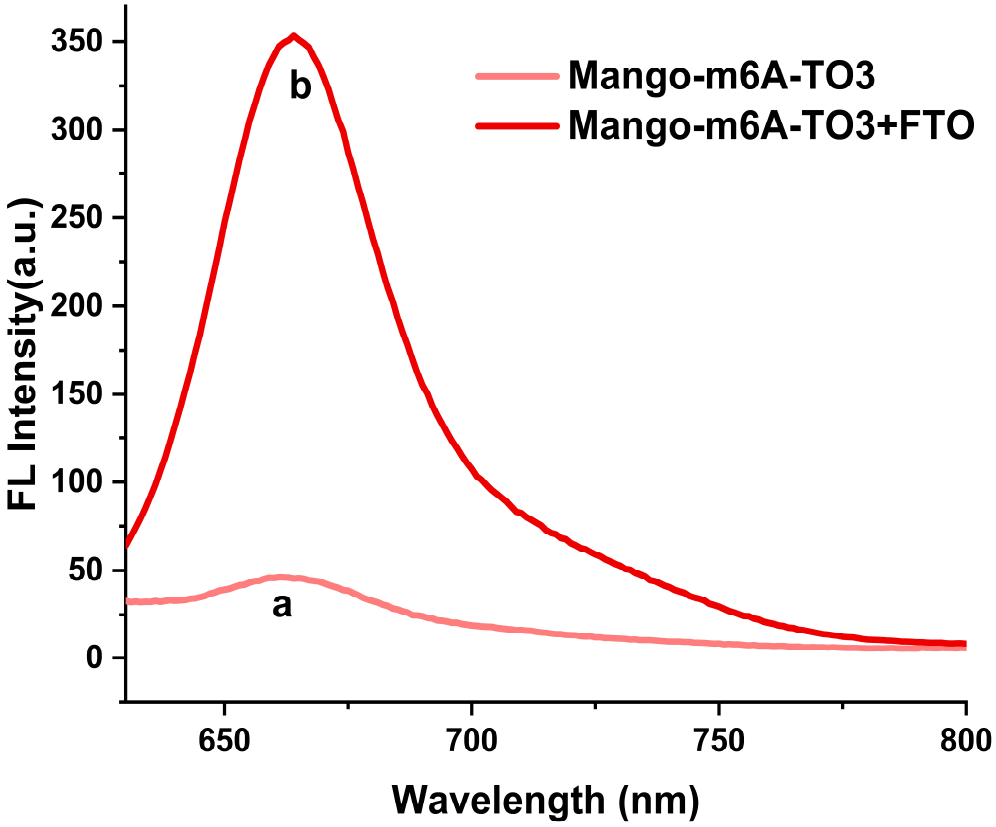

Fig. S7. Fluorescence responses of the system (Mango-m6A22-TO3) under different conditions: (a) Mango-m6A22-TO3; (b) Mango-m6A22-TO3+FTO； Experimental conditions: 50 nM Mango-m6A22-TO3, 250 nM FTO. λex/em=600/660nm.