

# Supplementary Data

## Data Description

This document provides supplementary data from fluorescence spectroscopy analysis of 17 binary mixtures of anthracene (ANA) and naphthalene (NAP) prepared at varying concentration ratios. The dataset supports the quantitative and qualitative analysis of spectral features as a function of composition.

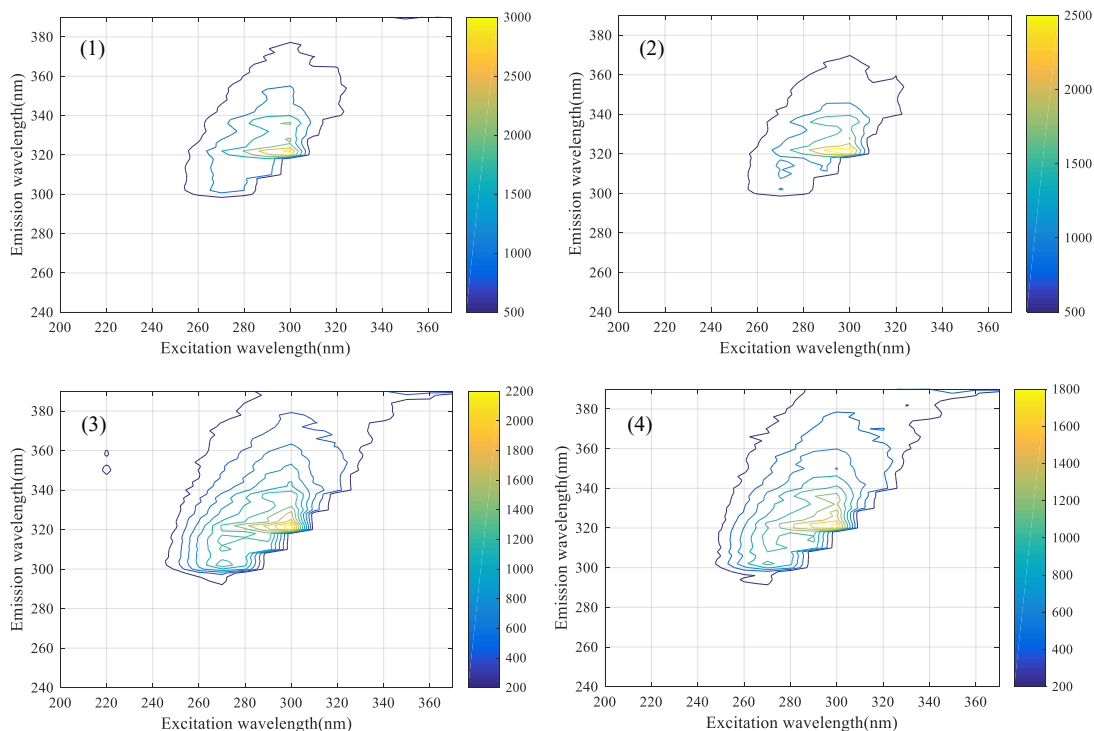
## Raw Data Table

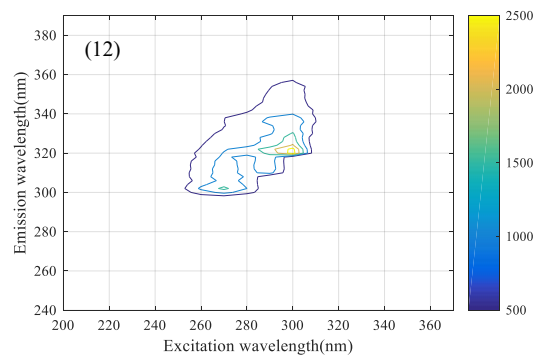
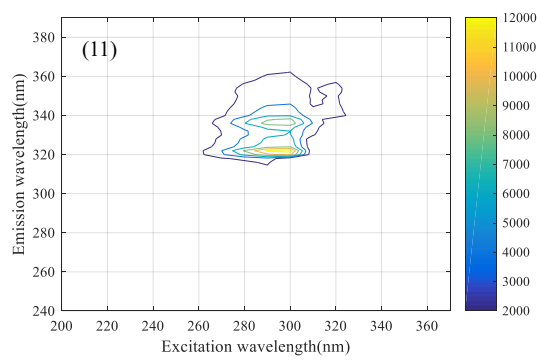
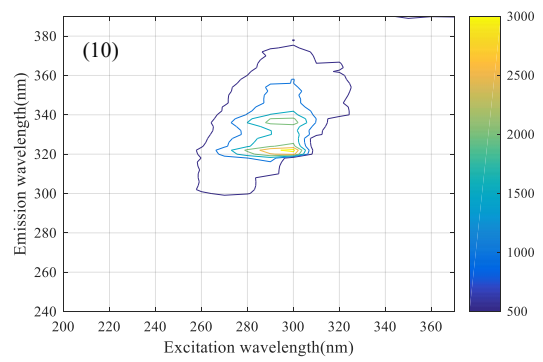
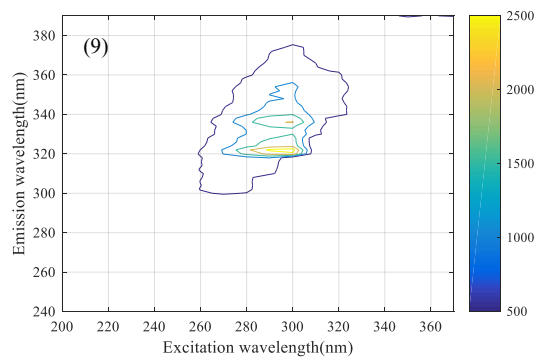
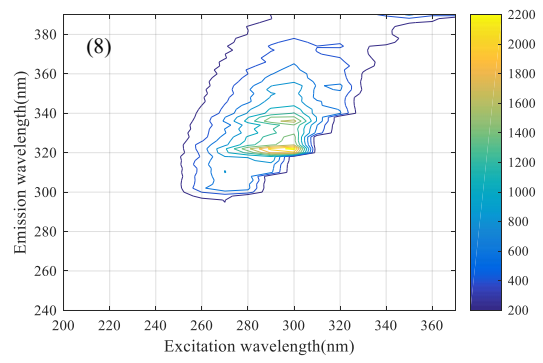
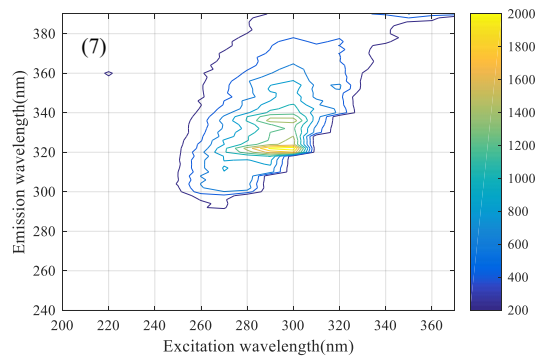
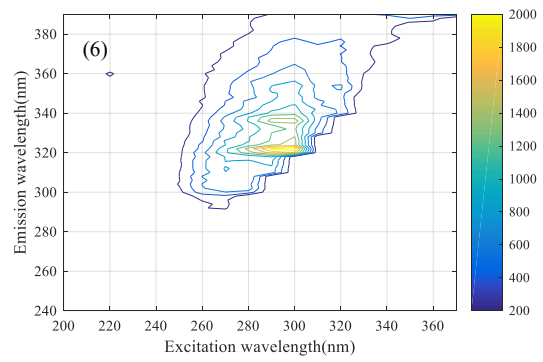
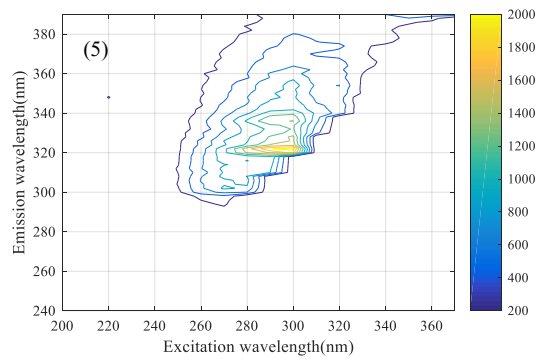
**Table 1** The experimental concentrations of the two target compounds. ( $\mu\text{g/L}$ )

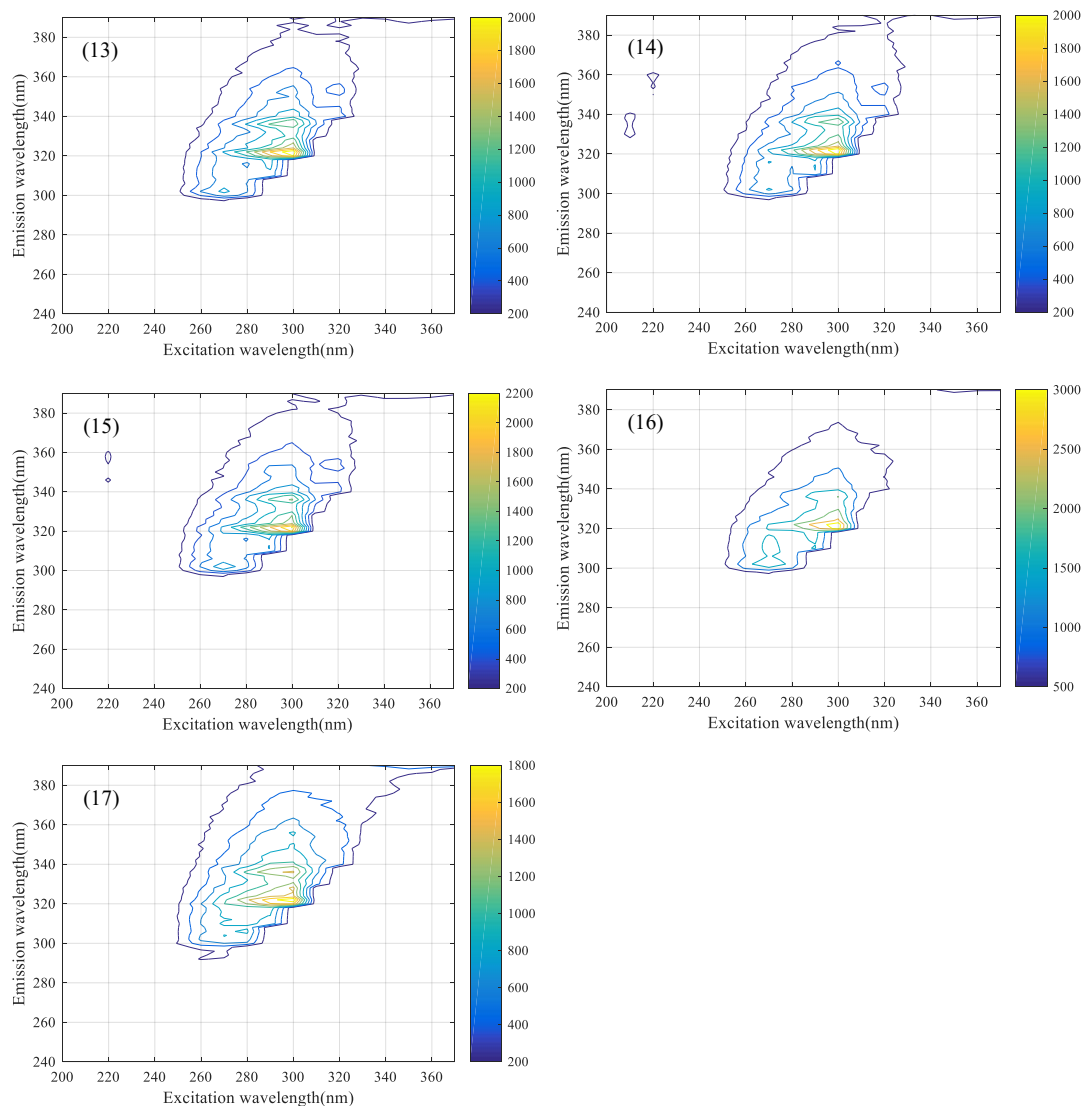
Sample	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ANA	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	1.5	2.5	3.5	2.5	2.5	2.5	3.0	1.5
NAP	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.5	3.5	2.5	1.5	2.5	3.0	3.0	2.0	4.0

## Fluorescence Spectral Data

The collected fluorescence emission spectra for all 17 samples are compiled in the figure below. The overlaid spectra facilitate direct visual comparison of spectral shifts, intensity variations, and changes in peak shape as a function of the ANA-to-NAP concentration ratio.







**Figure S1. Fluorescence Spectrum of all samples: (1) Sample 1, (2) Sample 2, (3) Sample 3, (4) Sample 4, (5) Sample 5, (6) Sample 6, (7) Sample 7, (8) Sample 8, (9) Sample 9, (10) Sample 10, (11) Sample 11, (12) Sample 12, (13) Sample 13, (14) Sample 14, (15) Sample 15, (16) Sample 16, (17) Sample 17.**

## Data Availability

**The raw spectral data for each sample are available from the corresponding author upon reasonable request.**