Supplementary Information for

Discrimination and classification of high explosives and other

organic materials based on laser-induced plasma spectroscopy

Xianshuang Wang^a, Yage He^a, Ying Zhang^a, An Li^a, Xinyu Zhang^a, Xueyong Guo^b, Tonglai Zhang^b, Wei Guo^a, Ruibin Liu^a, *, and Yugui Yao^{a, c, *}

^aKey Lab of advanced optoelectronic quantum architecture and measurement (Ministry of Education), Beijing Key Lab of Nanophotonics & Ultrafine Optoelectronic Systems, School of Physics, Beijing Institute of Technology, Beijing 100081, China.

^bState Key Laboratory of Explosion Science and Technology, Beijing Institute of Technology, Beijing 100081, China

^cFrontiers Science Center for High Energy Material (MOE), Beijing Institute of Technology, Beijing 100081, China.

* Correspondence author:

TEL: +86-13520398457. E-mail: liusir@bit.edu.cn (Ruibin Liu)

TEL: +86-010-68918672. E-mail: ygyao@bit.edu.cn (Yugui Yao)

Contents

Page S2 Supplementary Figure 1

LIPS spectra of sample of E2-E5 and B1-B5.

Page S2 Supplementary Figure 2.

The correlation graphs C2 vs Aromatic index (a), C2 vs OB (b), C vs Aromatic index (c) and C vs OB (d).

Page S2 Supplementary Figure 3.

The correlation graphs C vs C-C %+C=C % (a) and C2 vs C-C %+C=C % (b).



Supplementary Figure 1. LIPS spectra of sample of E2-E5 and B1-B5.



Supplementary Figure 2. The correlation graphs C₂ vs Aromatic index (a), C₂ vs OB (b), C vs Aromatic index (c) and C vs OB (d).



Supplementary Figure 3. The correlation graphs C vs C-C %+C=C % (a) and C₂ vs C-C %+C=C % (b).