## Supporting Information

## Redox and Photoisomerization Switching of the Second-Order

## Optical Nonlinearity of a Tetrathiafulvalene Derivative of

## Spiropyran Across Five States: A DFT Study

Chun-Guang Liu\* and Xiao-Hui Guan

College of Chemical Engineering, Northeast Dianli University Jilin City, 132012, P. R. China

Table S1. Annihilation of the Spin Contaminant for All Open-shell Systems

Compounds	Before	After
<sup>2</sup> 1-c <sup>1e</sup> <sub>oxidized</sub>	0.7538	0.7500
<sup>2</sup> 1-0 <sup>1e</sup> <sub>oxidized</sub>	0.7577	0.7502
${}^{3}1$ - $c^{2e}_{oxidized}$	2.0176	2.0002
<sup>3</sup> 1-0 <sup>2e</sup> <sub>oxidized</sub>	2.0480	2.0013

<sup>\*</sup> corresponding author

E-mail addresses: liucg407@163.com