

**Invited Lecture**  
**3<sup>rd</sup> Asian Conference on Chemosensors and Imaging Probes**  
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**Recent progress in stimuli-induced polydiacetylenes (PDAs) for sensing chemical and biological targets**

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**Abstract:**

Polydiacetylenes (PDAs) have received increasing attention as smart materials owing to their unique properties. Upon addition of various stimuli, the blue PDAs can undergo a colorimetric transition from blue to red along with a change from non-fluorescent to fluorescent. The optical changes can be readily detected using the naked eye and by absorption and fluorescence spectrometers. These properties make PDAs excellent materials for use in platforms for sensing chemical or biological targets. In recent years, the number of biosensors and chemosensors based on the optical responses of polydiacetylenes have been reported. According to the approaches of inducing acceptors into a polymer matrix and the mechanism of optical changes, this context will comprehensively summarize the recent work on both biosensors and chemosensors based on the polydiacetylene platform.

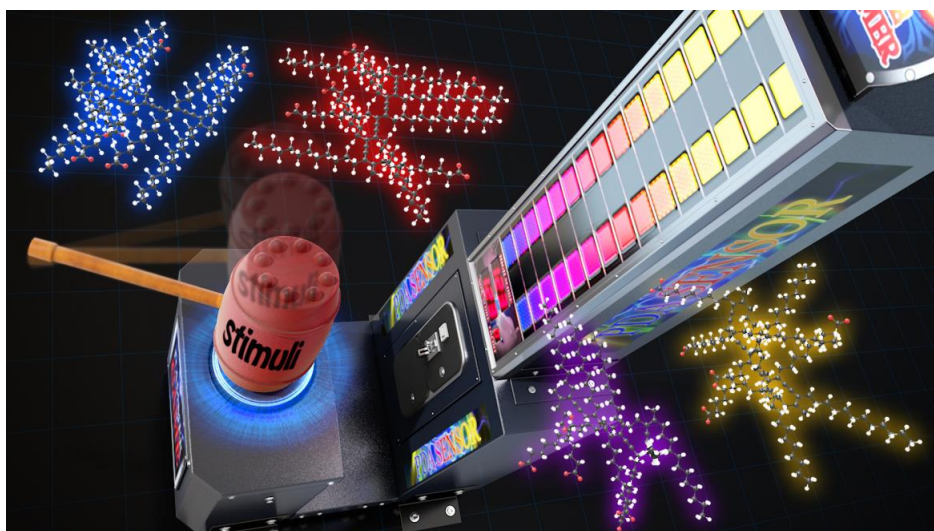


Figure 1. Schematic representation of stimuli-induced polydiacetylenes

**References and Notes:**

- (1) Chen, X.; Zhou, G.; Peng, X.; Yoon, J. *Chem. Soc. Rev.* **2012**, *41*, 4610-4630.
- (2) Lee, S.; Kim, J. -Y.; Chen, X.; Yoon, J. *Chem. Commun.* **2016**, *52*, 9178-9196.
- (3) Lee, S.; Lee, J.; Lee, M.; Cho, Y. K.; Baek, J.; Kim, J.; Park, S.; Kim, M. H.; Chang, R.; Yoon, J. *Adv. Funct. Mater.* **2014**, *24*, 3699-3705.

## Bio-Sketch of the Speaker

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### Education

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### Professional Career

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### Recent Publications

1. D. Lee, K. M. K. Swamy, J. Hong, **S. Lee\***, J. Yoon\*, *Sens. Actuator B-Chem.*, **2018**, 266, 416-421.
2. X. Li<sup>†</sup>\*, **S. Lee**<sup>†</sup>, J. Yoon\*, *Chem. Soc. Rev.*, **2018**, 47, 1174-1188.
3. W. Lee, D. Lee, J. -Y. Kim, **S. Lee\***, J. Yoon\*, *Mater. Chem. Front.*, **2018**, 2, 291-295.
4. **S. Lee**, J. -Y. Kim, X. Chen\*, J. Yoon\*, *Chem. Commun.* **2016**, 52(59), 9178-9196.
5. **S. Lee**, H. Cheng, M. Chi, Q. Xu, X. Chen, C. -Y. Eom, T. D. James, S. Park, J. Yoon\*, *Biosens. Bioelectron.* **2016**, 77, 1016-1019.
6. J. Baek<sup>†</sup>, J. F. Joung<sup>†</sup>, **S. Lee**<sup>†</sup>, H. Rhee, M. H. Kim, S. Park\*, J. Yoon\*, *J. Phys. Chem. Lett.* **2016**, 7, 259-265.
7. **S. Lee**, Karen K. Y. Yuen, Katrina A. Jolliffe\*, Juyoung Yoon\*, *Chem. Soc. Rev.* **2015**, 44(7), 1749-1762.