



# PACCON 2015



## Proceedings

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King Mongkut's University of Technology Thonburi



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### Novel Derivative of Amide Chemosensor: Metal Ions Detection

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- The efficiency of amide chemosensor derivative in detecting metal ions represented by fluorescence at 475 nm with the HOMO-LUMO energy gap amounts to 2.6 eV.
- This experiment is performed the solvent impact on fluorescent structure, including the solvent effect in dichloromethane, methanol, dimethylsulfoxide, dimethylformamide and acetonitrile which determined of responding light in UV-Visible.
- The density functional theory was investigated the structures, molecular properties and mechanism of the complexes by B3LYP/LanL2DZ level of theory.

**Keywords** Dithieno[3,2-β;2',3'-δ]pyrrole(DTP), Chemosensor, Metal Ions Detection

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### Layer-by-layer Self-assembly of Silver Nanoparticles/ Polyaniline Composite Thin Films for Ammonia Sensing

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- Polyaniline capped with poly (styrene sulfonic acid co maleic acid), (CoPSS) was used as the stabilizing agent for silver nanoparticles synthesis.
- Layer-by-Layer self-assembly technique was used to build the multilayers of composite films.
- A composite thin film of silver nanoparticles/polyaniline was used for ammonia sensing.

**Keywords** Silver Nanoparticles; Polyaniline; Layer-by-layer; Ammonia Sensing

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### Immobilization of Silver Nanoparticles on Polyester Fibers Using Layer-by-layer Self-assembly Technique and Its Antimicrobial Application

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- We demonstrated the simple, fast and environmental friendly method for preparing antibacterial air filter.
- This is the first study to prepared antibacterial air filter with AgNPs using layer-by-layer technique.
- Polyester fibers coated with AgNPs showed effective antimicrobial activity when tested against *S. aureus*.

**Keywords** Silver Nanoparticles; Antibacterial Activity; Layer-by-Layer; Green Synthesis