

Printing of organic light emitting diodes on textile

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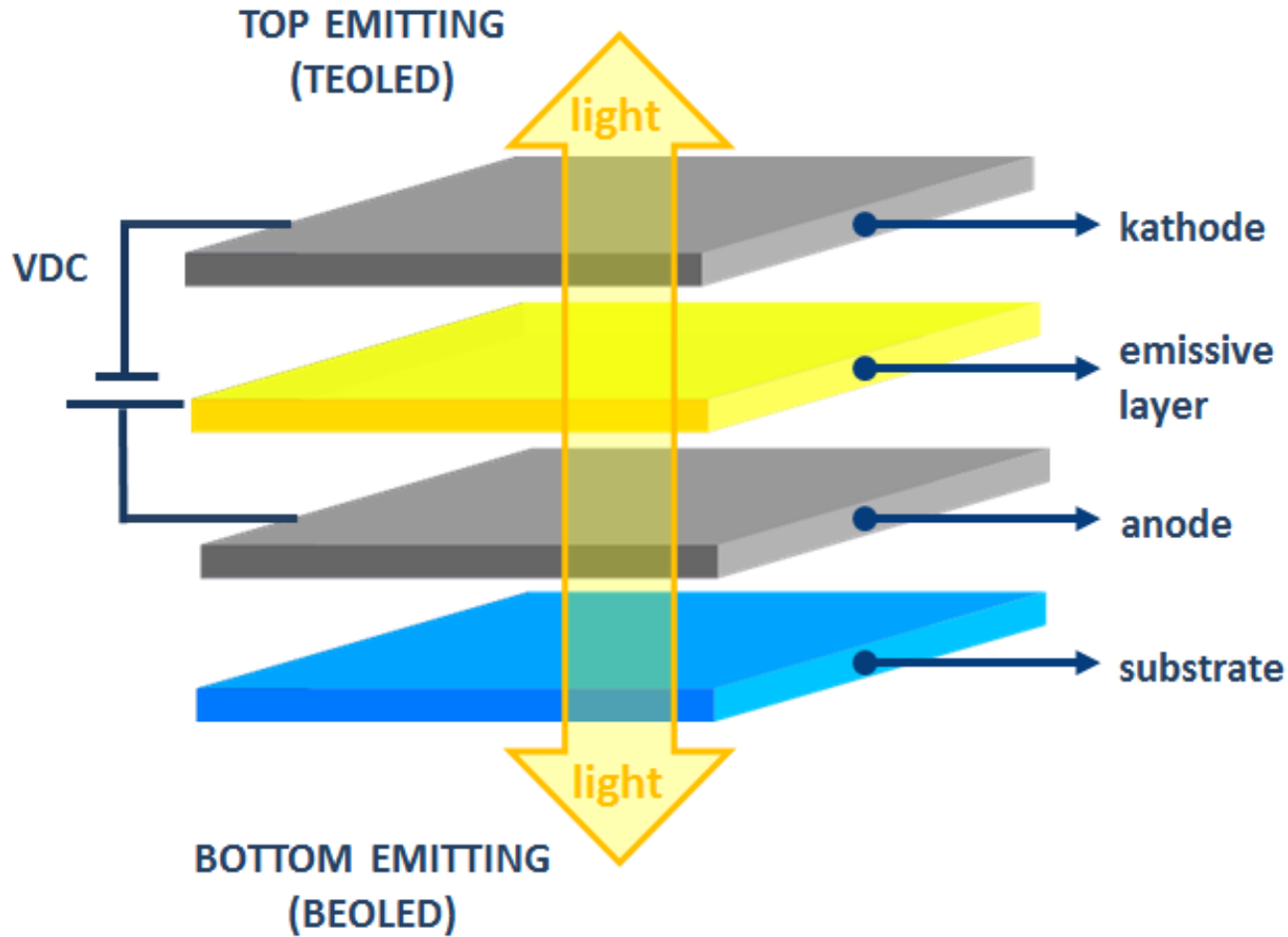
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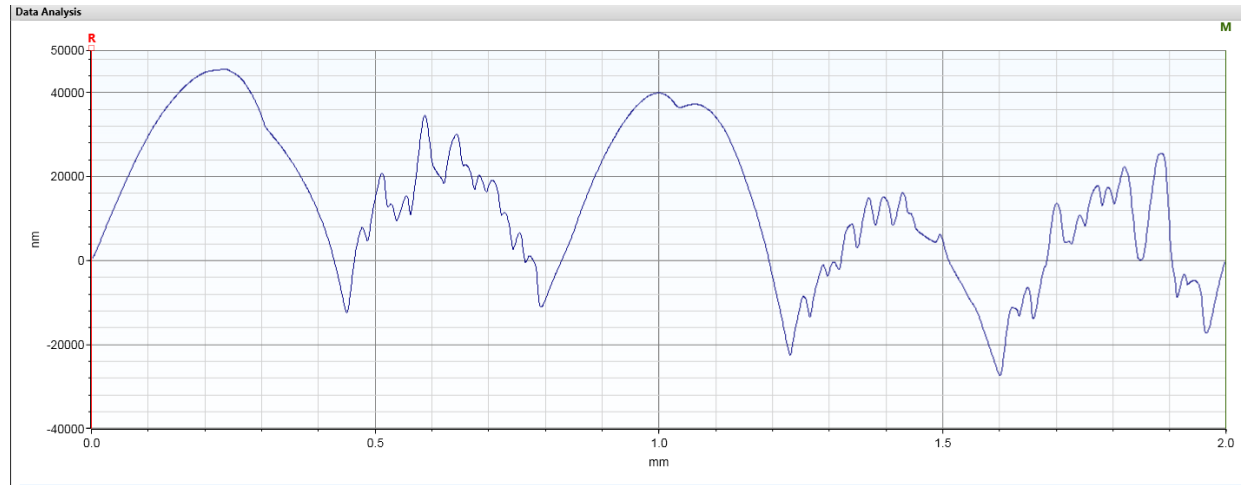
Organic light emitting diode (OLED)





OLED structure and techniques

Textile substrate



Dektak surface profile measurement on polyester





OLED structure and techniques

Covering layer



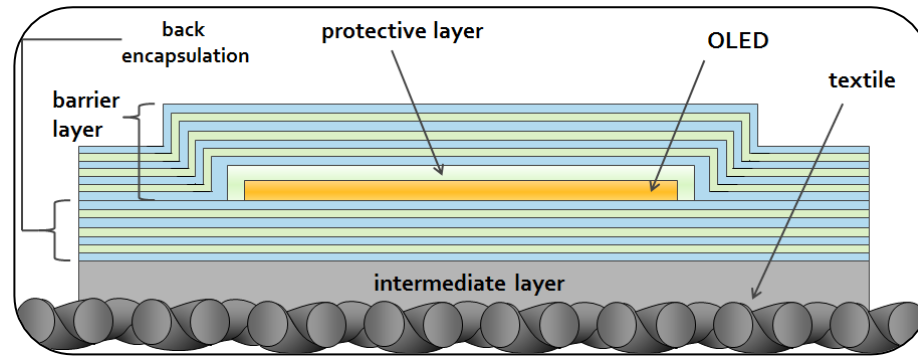
Textile + polyurethane



Textile + acrylate

OLED structure and techniques

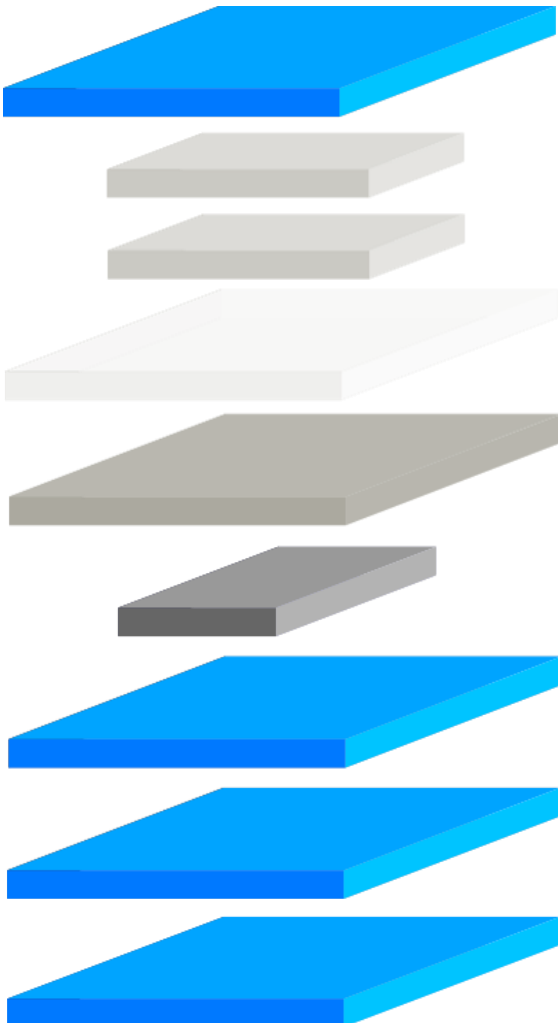
Encapsulation



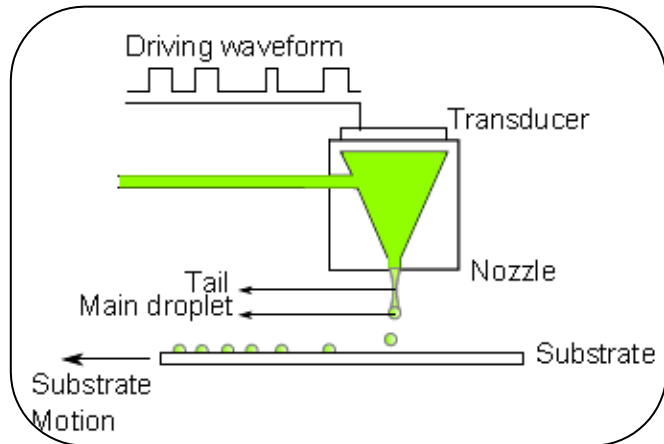
Encapsulation structure



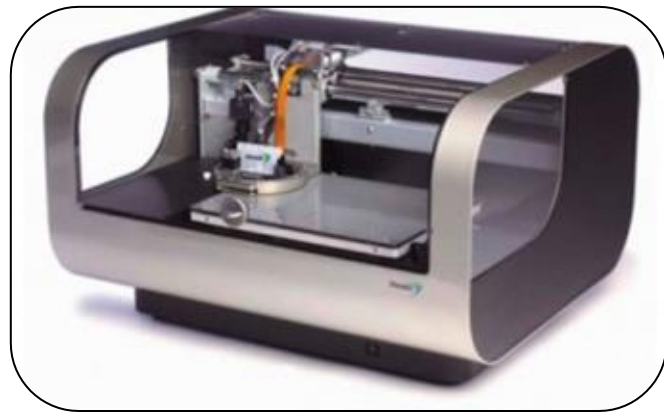
Plasma reactor ECR



Ag contact (200 nm)

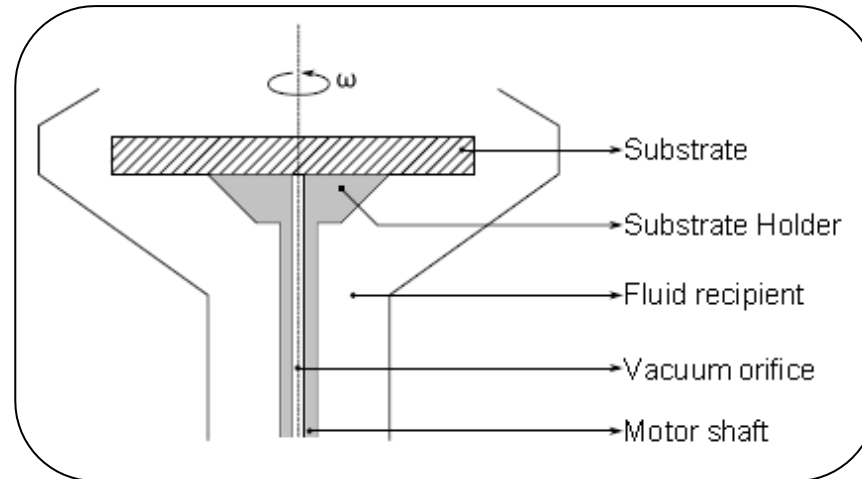


Inkjet printing



Dimatix inkjet printer

PEDOT PSS (35 nm)

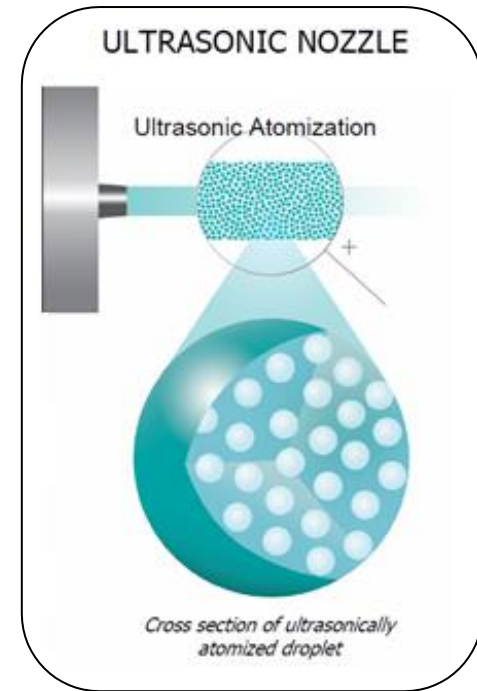
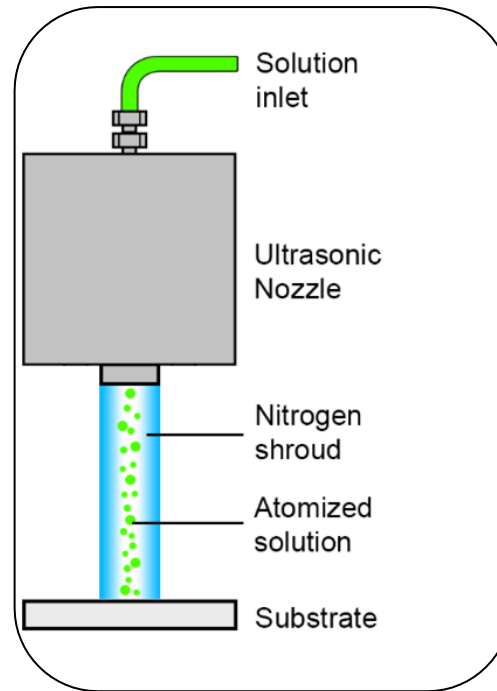
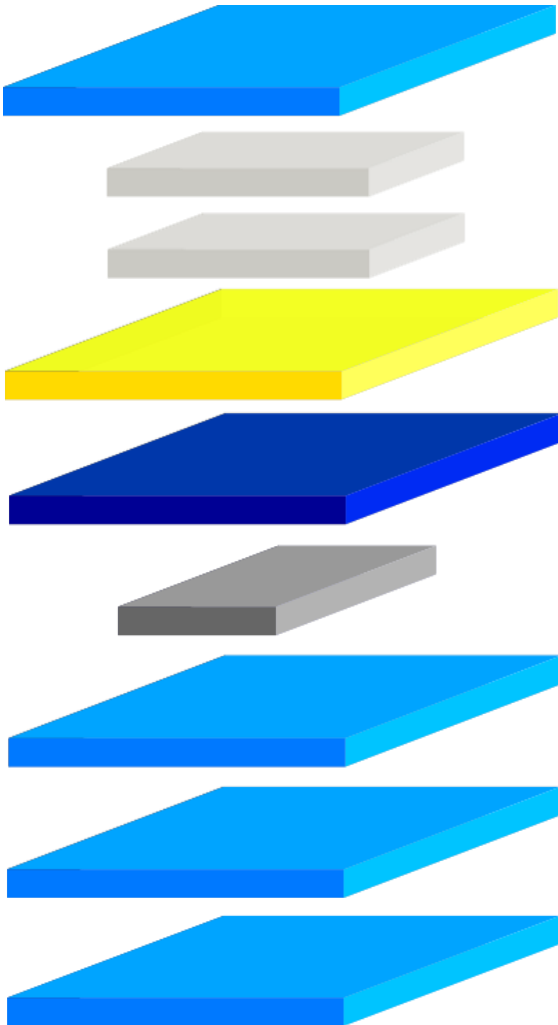


Spin coating



Spin coater

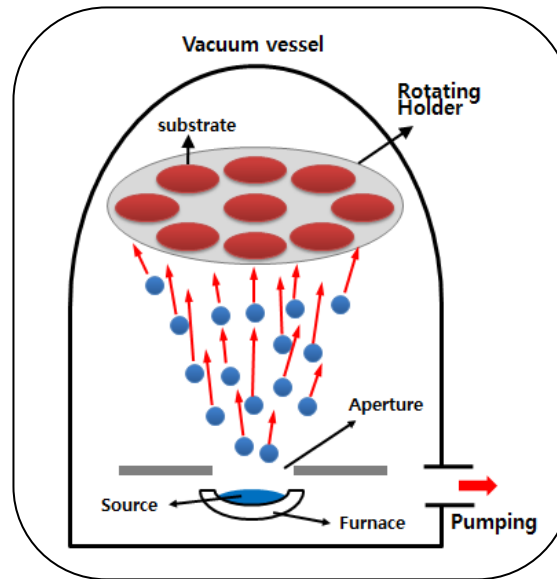
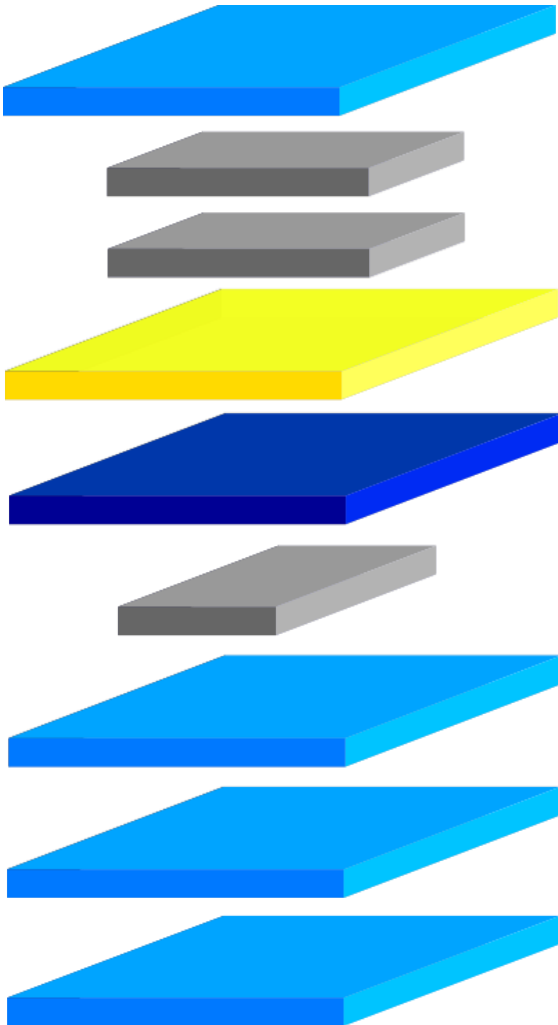
Super Yellow (80 nm)



Ultrasonic spray coating

OLED structure and techniques

Ca (12 nm) / Ag (17 nm) contact



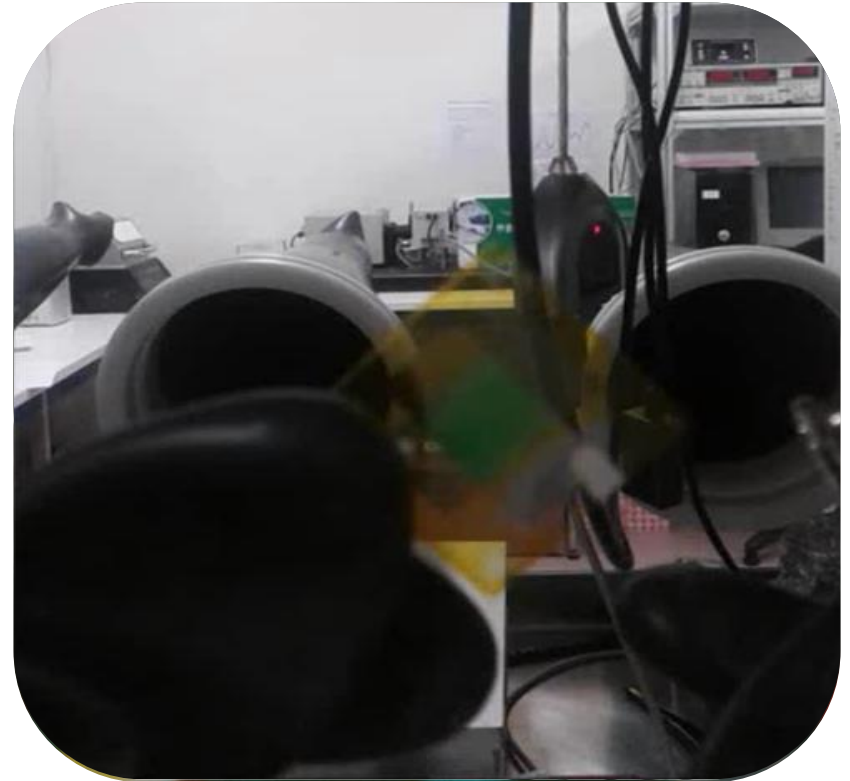
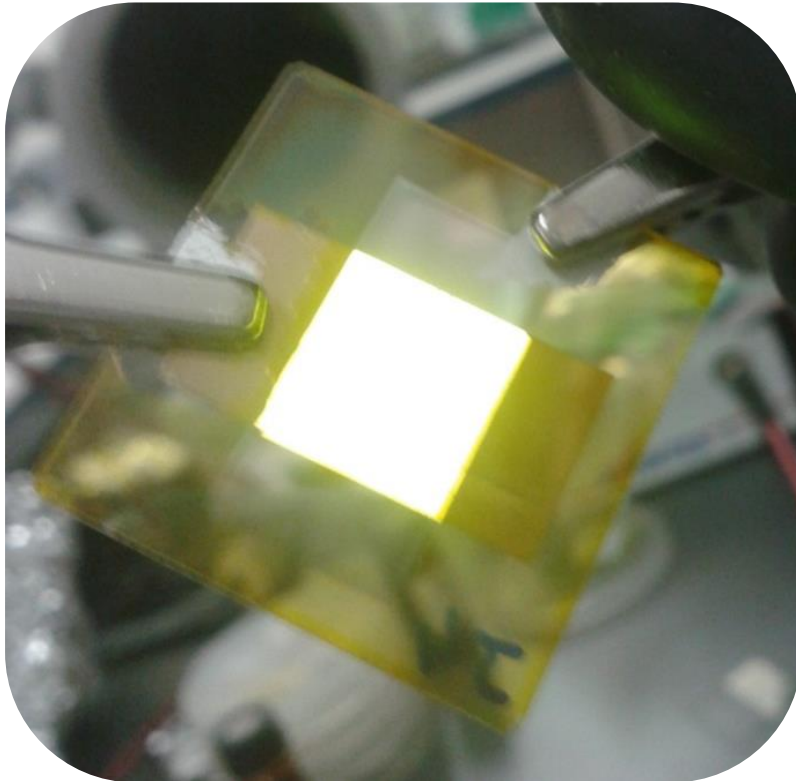
Thermal evaporation



Thermal evaporator



TEOLED on glass and PET



TEOLED on textile?



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Introduction

Textile technology → New emitting organic light emitting diodes (TEOLED) → Applications

Experimental

TEOLED on glass

TEOLED on PET

TEOLED on Textile

Results

Conclusion

References

Acknowledgements

References: [1] Oh, Dong-Hyoung, SGG, Beolgyo, Gyeonggi-Province, Korea, 2007; [2] Oh, Dong-Hyoung, SGG, Beolgyo, Gyeonggi-Province, Korea, 2007; [3] Lee, Dongmin, Science and Technology, 2007, 2007

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References: Universiteit Hasselt, Universiteit Stuttgart, COMET, cornet, imec