

# **SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES**



*Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai*  
*Approved by Pharmacy Council of India, New Delhi.*  
**Coimbatore -641035**

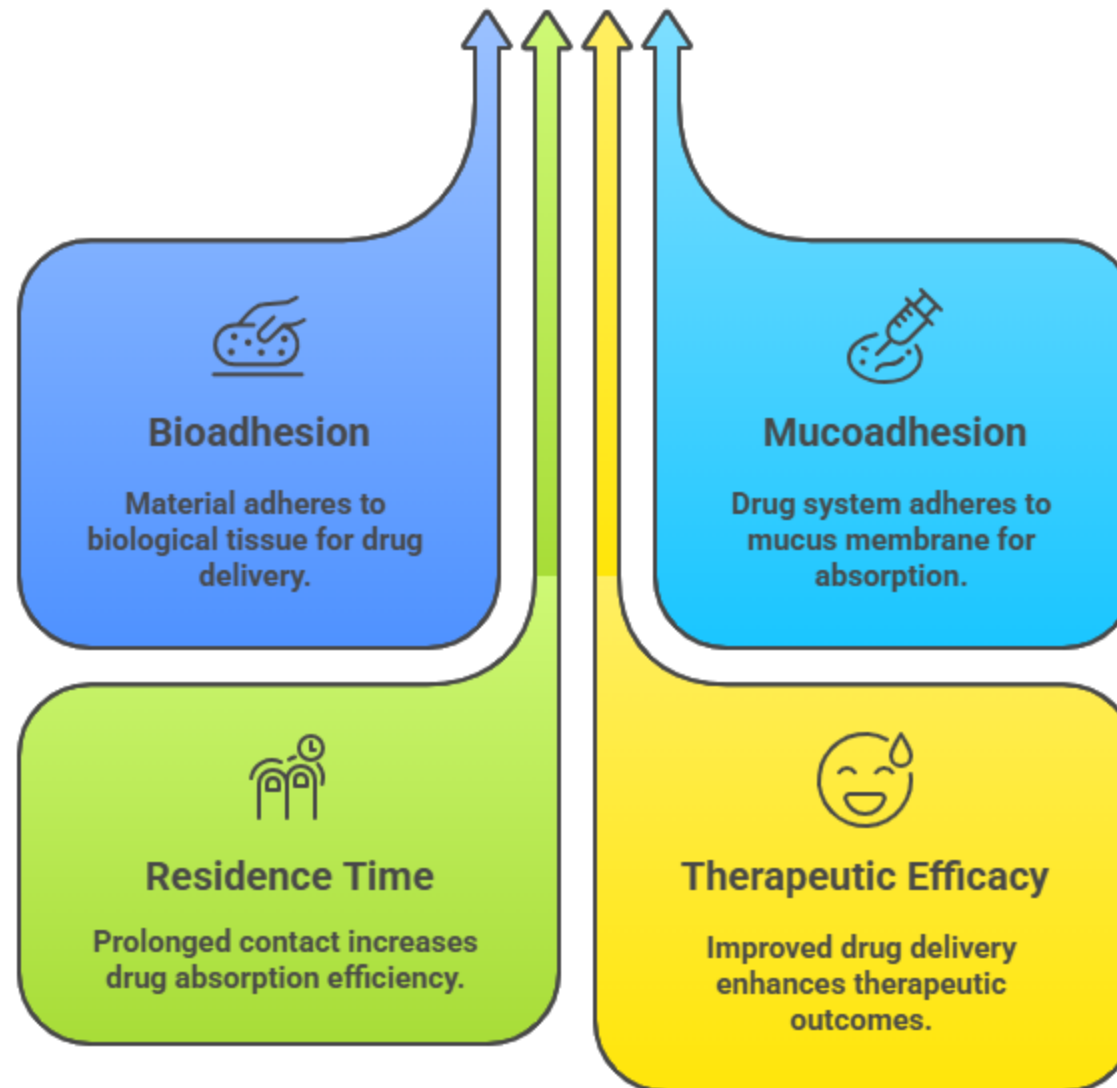
**COURSE NAME : NOVEL DRUG DELIVERY SYSTEM (BP 706 T)**

**VII SEM / IV YEAR**

**UNIT -2**

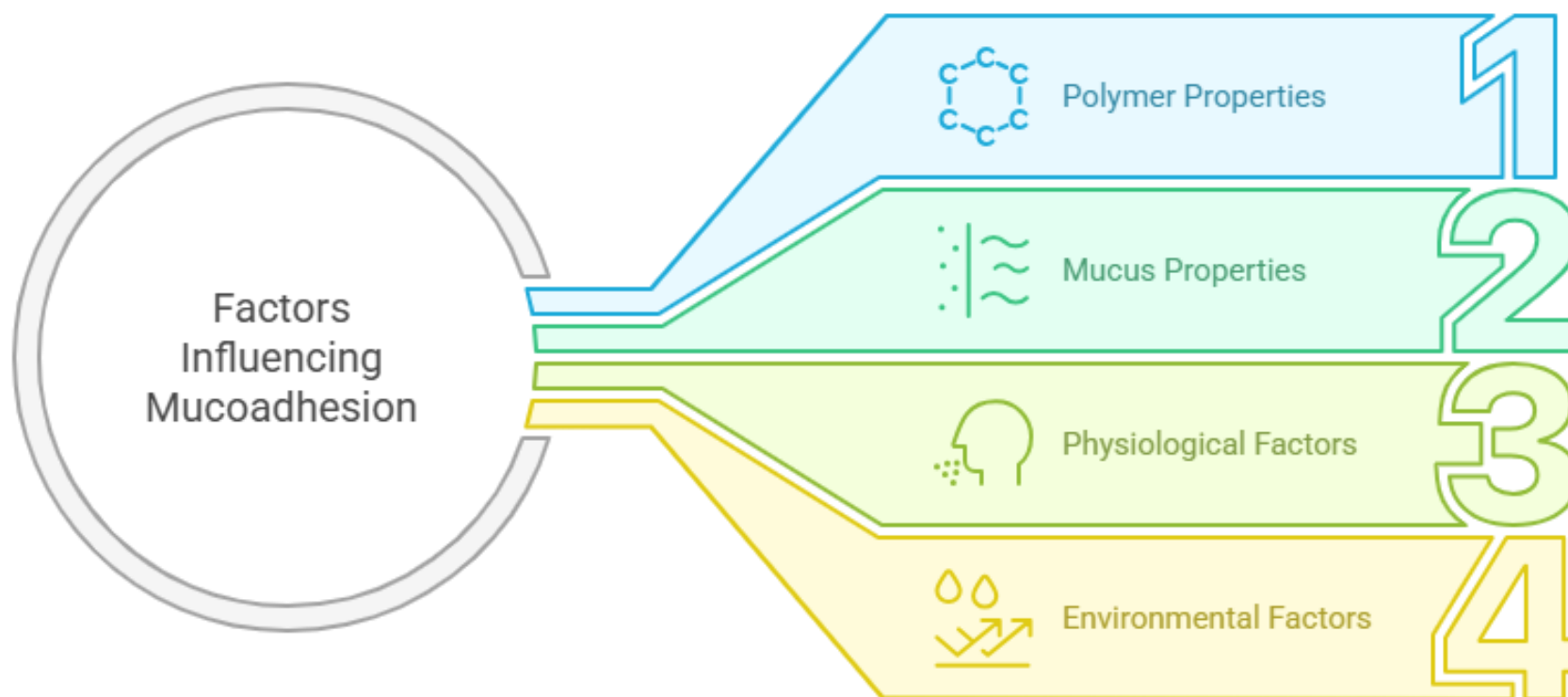
**TOPIC 2 :MUCOADHESIVE DRUG DELIVERY SYSTEM**

## Mucoadhesion in Drug Delivery



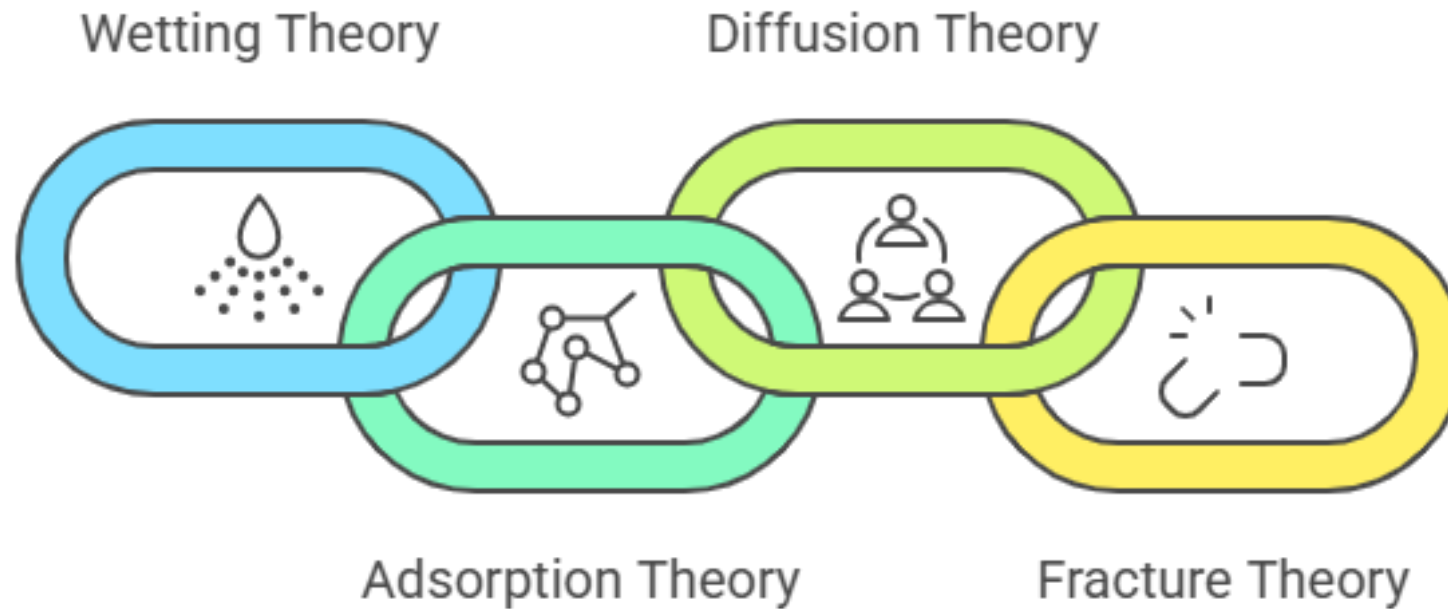
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## Factors Influencing on Mucoadhesion



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# Theories of Mucoadhesion

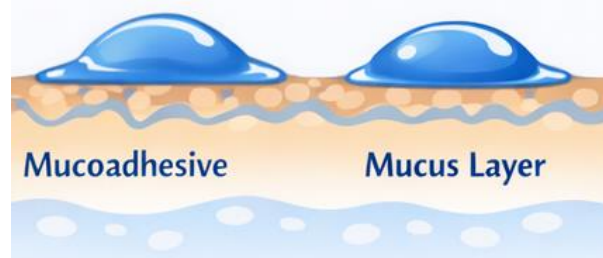


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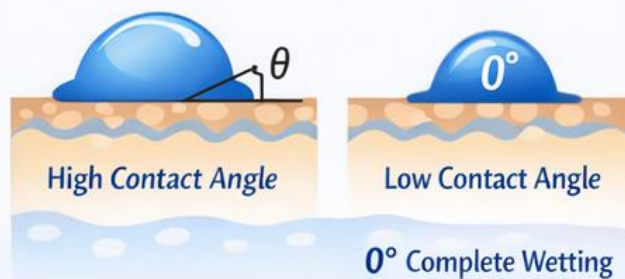
## Surface Tension

**Lower surface tension** mucoadhesives spread more easily on the mucus layer, which has high surface tension.



## Contact Angle

**Smaller contact angle** indicates better wetting.



## Surface Free Energy

**Matching surface free energy** of the material and mucus layer improves wetting.

### Poor Wetting



High Surface Energy  
Mucoadhesive

Low Surface Energy  
Mucus Layer

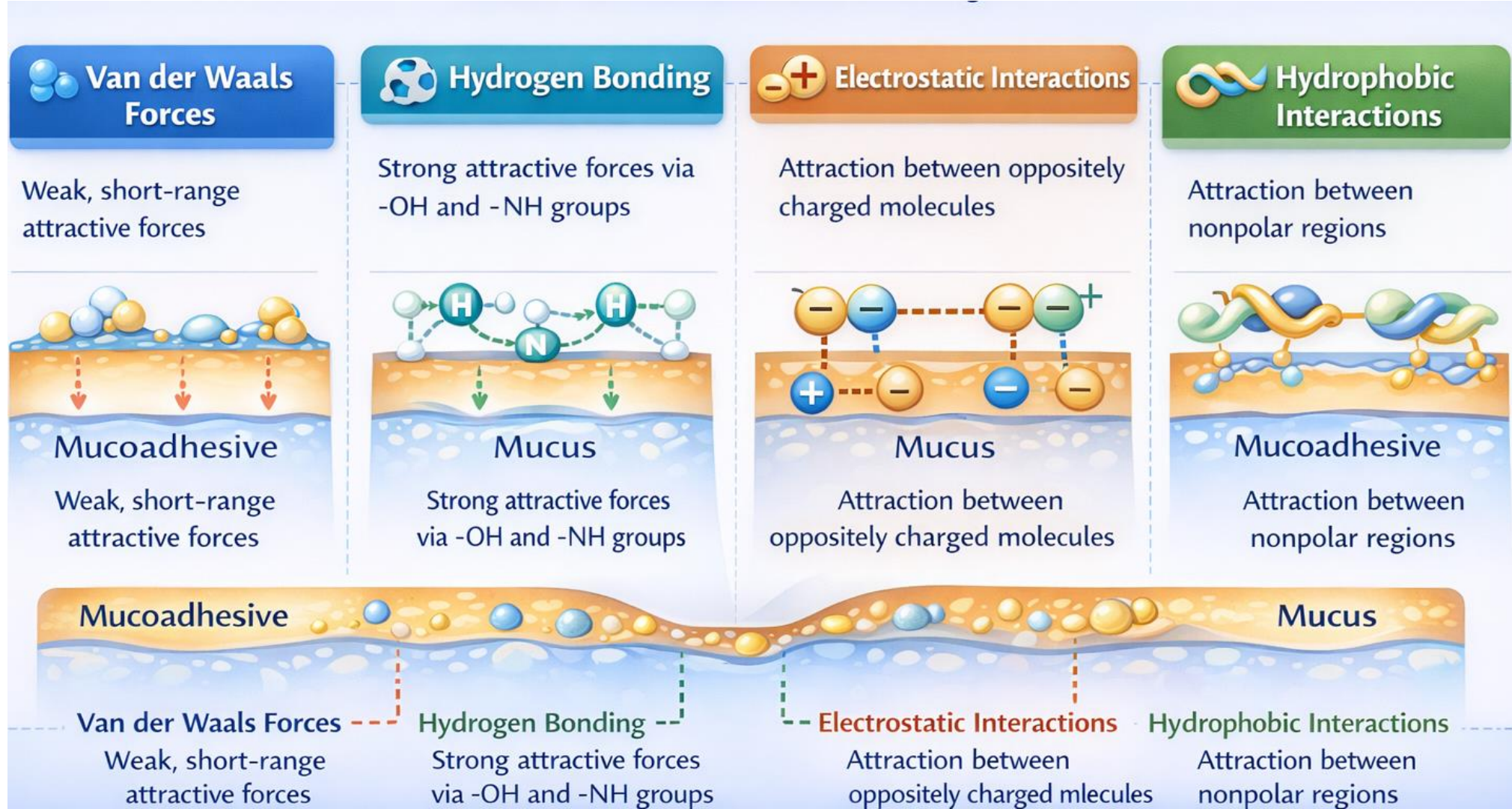
### Good Wetting



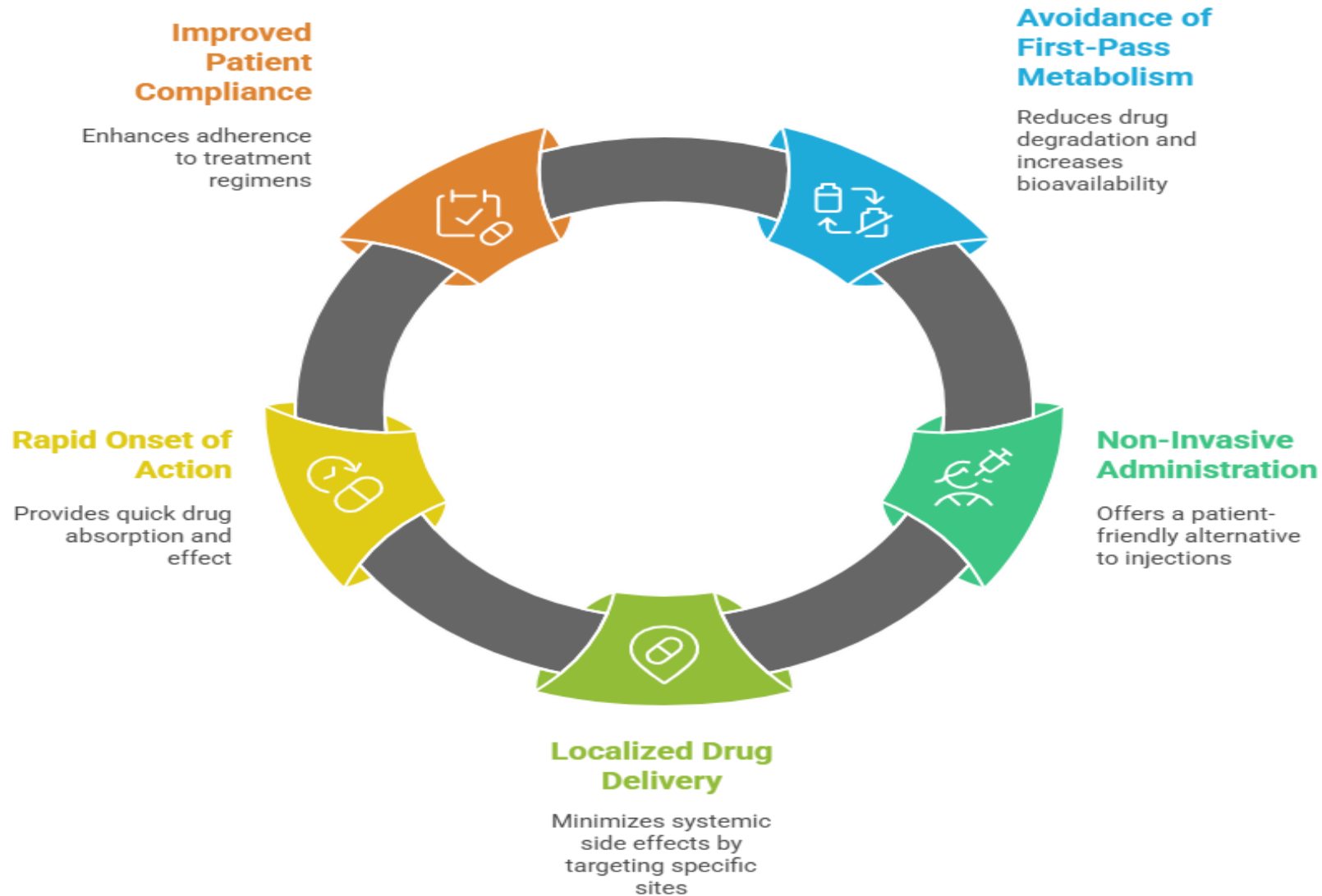
Matched Surface  
Energy

Mucus Layer

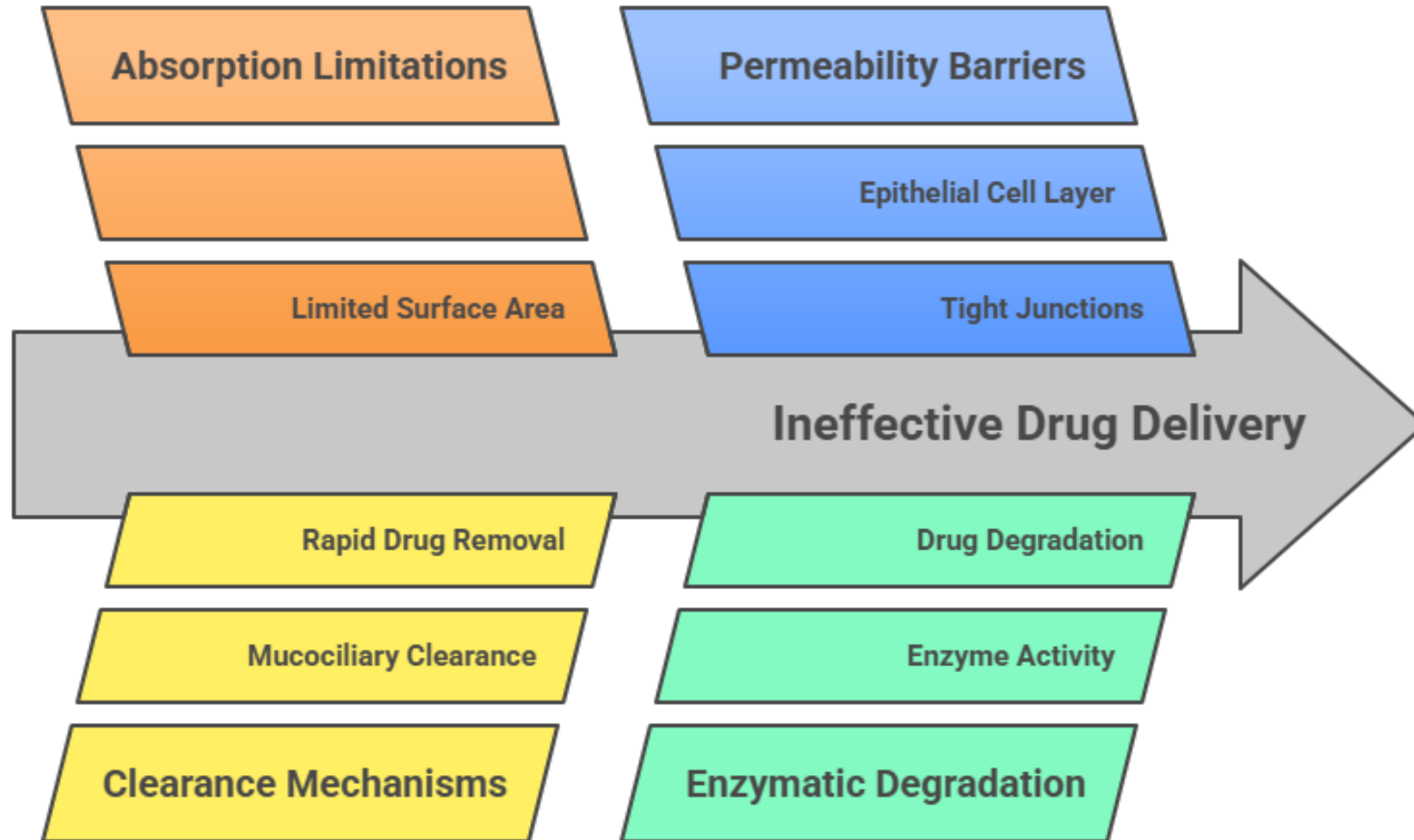




## Benefits of Mucosal Drug Delivery



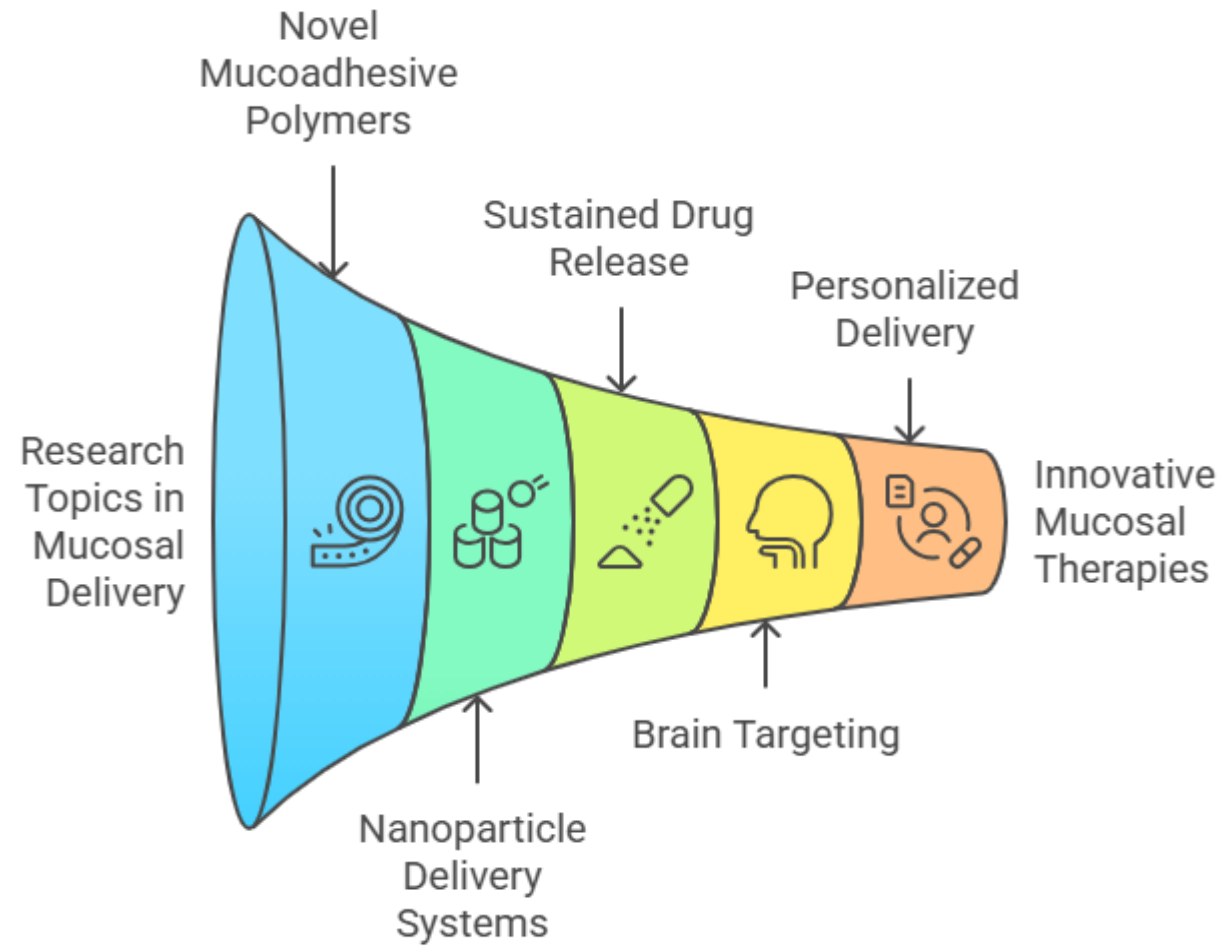
# Challenges in Mucosal Drug Delivery



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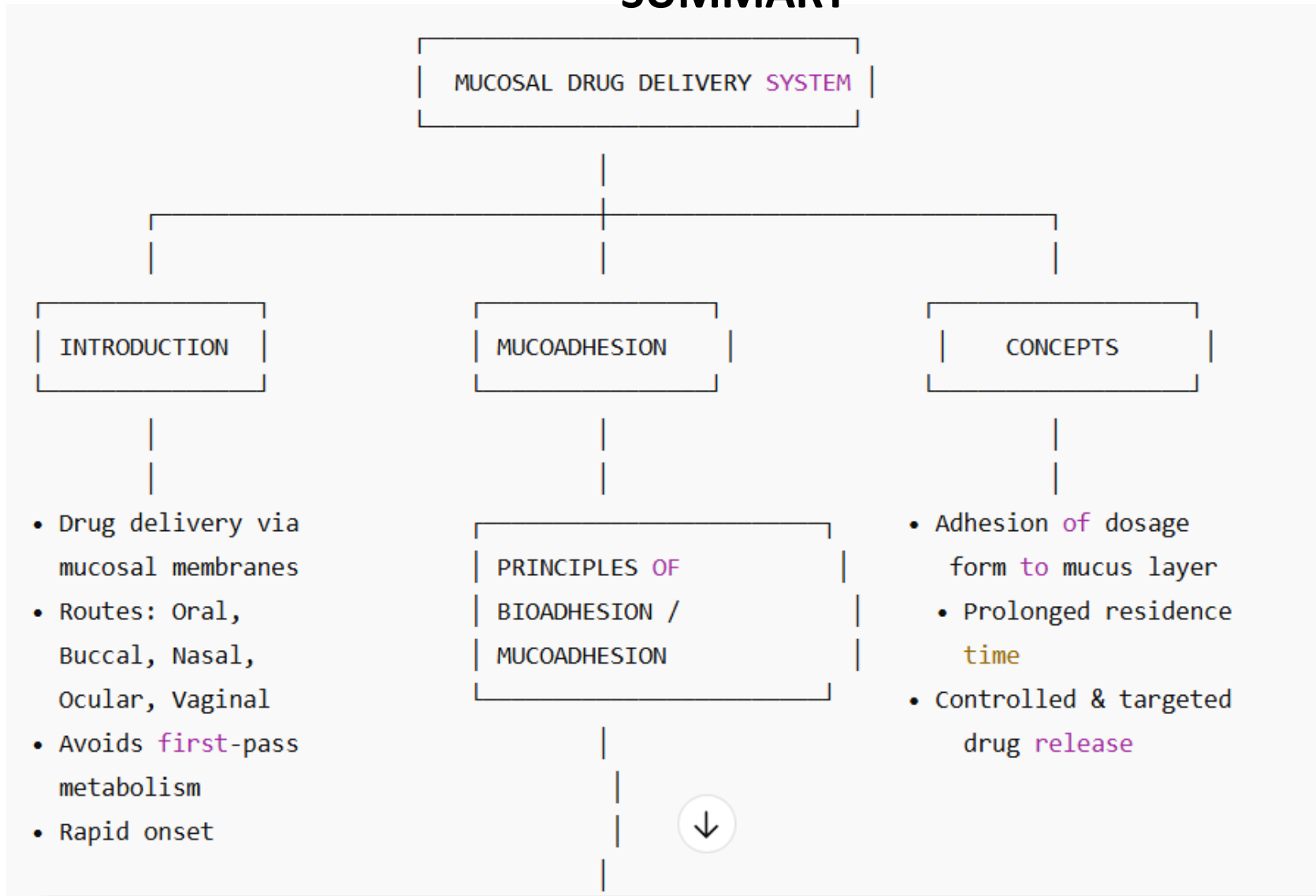


# Application Mucosal Drug Delivery Systems



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# SUMMARY



1.The main component of mucus responsible for mucoadhesion is:



A) Albumin

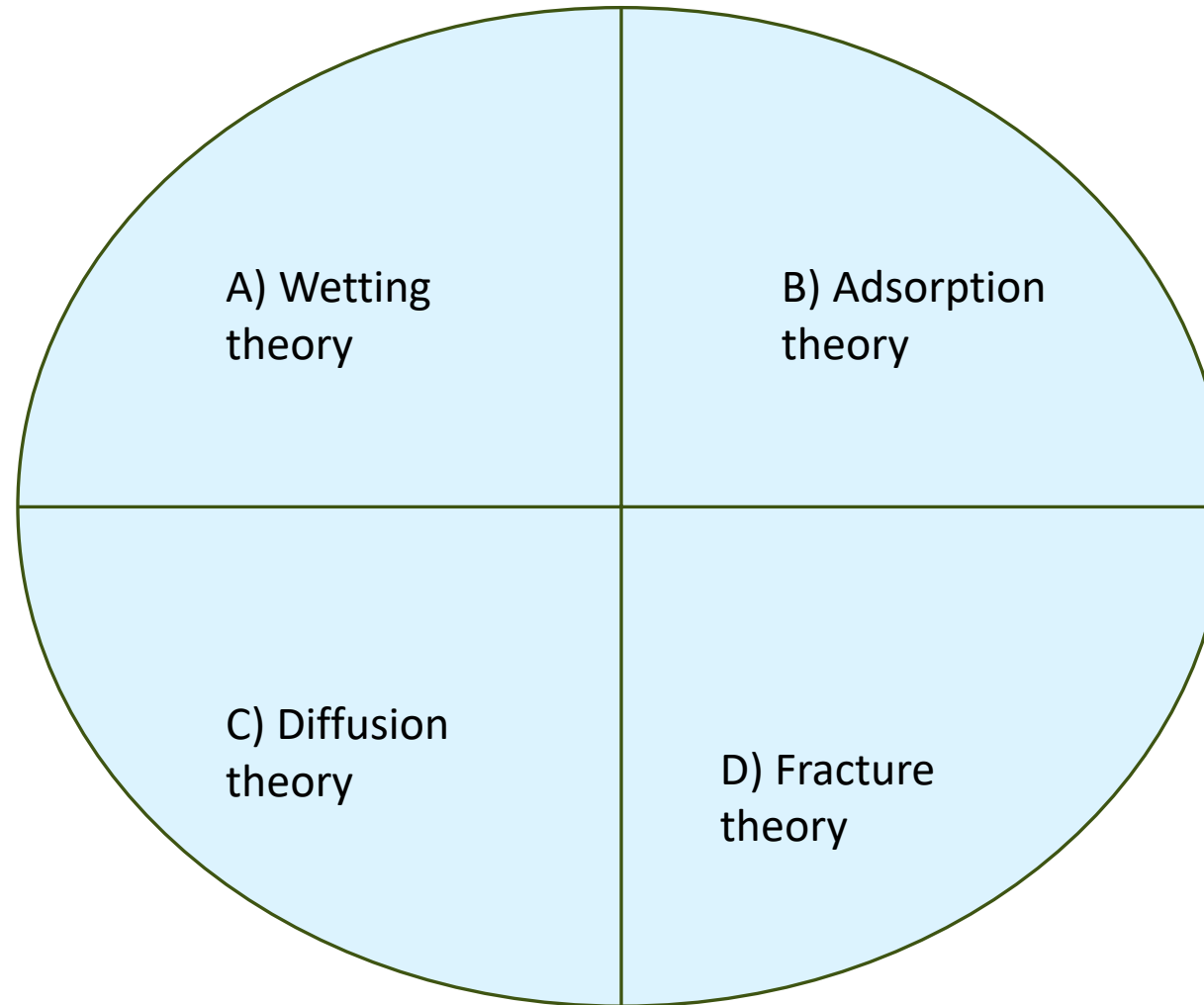
B) Keratin

C) Mucin

D) Collagen

Which theory explains interpenetration of polymer chains with mucus?

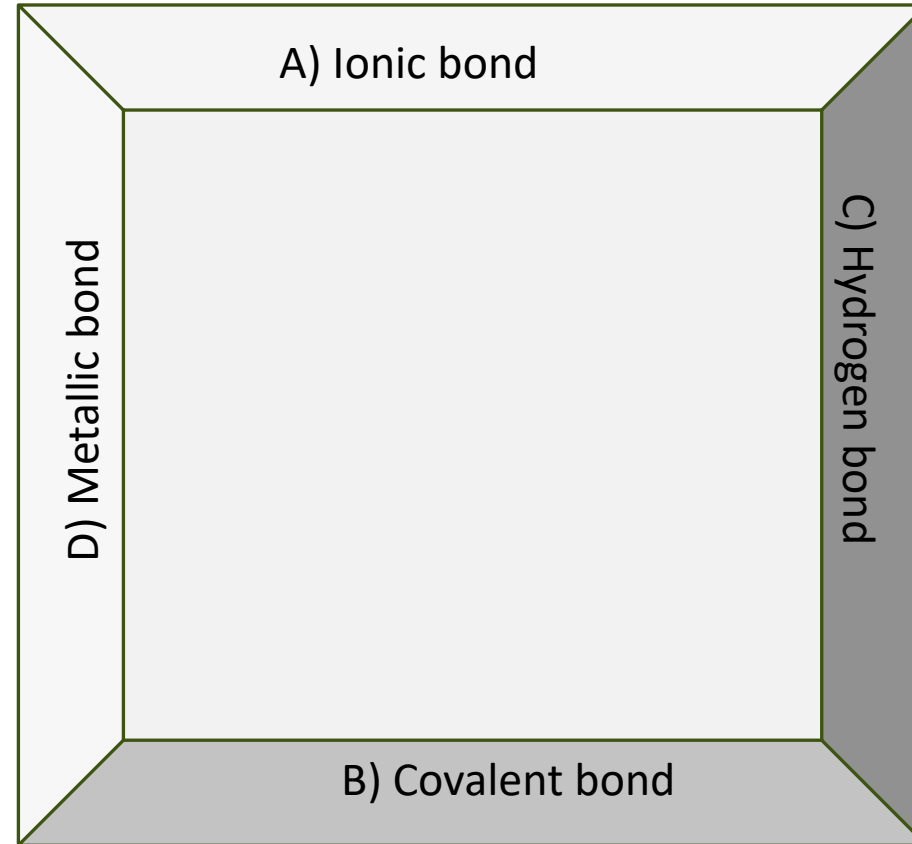






Which bond mainly contributes to mucoadhesion?





## REFERENCES

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2. Joseph R. Robinson: Sustained and Controlled Release Drug Delivery Systems, First edition, Volume 6, Marcel Dekker, Inc, 1986, pg.618.
3. <https://www.sciencedirect.com/journal/journal-of-controlled-release>
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# THANK YOU