

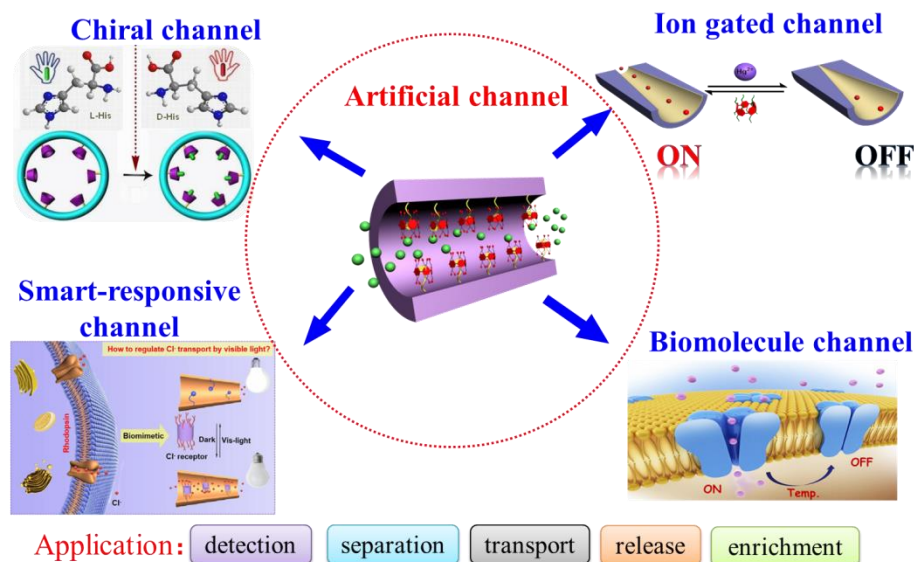
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PILLAR[N]ARENE FUNCTIONALIZED NANOCANNELS FOR BIOSENSING AND TRANSPORT

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Abstract. Inspired by various gated biological channels, we choose polymer membrane with more stable physical and chemical properties as the substrate to construct functionalized artificial nanochannels.^[1,2] Compared with biological channels, artificial nanochannels have good physical and chemical properties, as well as controllability and operability. By introducing multifunctional pillar[n]arene with unique pillar structure and position selectivity into the artificial nanochannels to construct functionalized artificial nanochannels with specific recognition ability.^[3] Based on the host-guest interaction of pillar[n]arene, the chemical structure of the nanochannel can be further adjusted to make it have the outstanding feature of selective complementarity. The construction of artificial nanochannels provides a new platform and simulation method for further research on information transmission and material exchange in life. It has potentially broad application value and development prospects in the fields of material transport and nano-sensing.^[4, 5]



References

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