

## NANO/MESO-SCALE PRINCIPLES AND APPLICATIONS WITH FLEXIBILITY: FROM DELIVERY AND SELF-RECOGNITION TO DIFFERENTIATION

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From viruses to tissue matrices, biology is filled with remarkable polymeric structures that motivate mimicry with goals of both clarifying and exploiting biological principles. Filamentous viruses inspired our development and computations of worm-like polymer micelles – ‘filomicelles’ – that persist in the circulation and deliver even better than spheres [1]. However, particles of any type interact with innate immune phagocytes while nearby ‘Self’ cells are spared due to a polypeptide that limits phagocytic clearance [2]. The phagocyte’s cytoskeleton forcibly drives the decision downstream of adhesion, proving analogous to how matrix elasticity directs stem cell fate [3, 4].

Key Words: block copolymer, self-assembly, shape, immunocompatibility, differentiation

### References

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