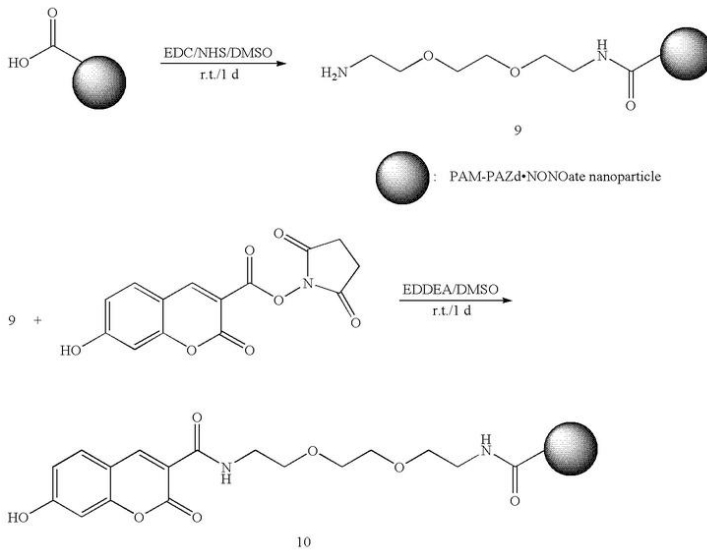


# Micelles for delivery of nitric oxide



Ref. Nr

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Keywords

Nitric oxide, N-diazoniumdiolate, drug delivery

Intellectual Property

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## Description

NO-releasing micelles, an alternative concept for drug delivery, where a drug forms a complex with a water-soluble diblock copolymer for micellization. Specifically, nitric oxide (NO), a potent regulator in wide variety of blood and tissue responses is complexed to secondary amines in an AB diblock copolymer, driving the formation of micelles. The AB diblock copolymer is designed and researched to be soluble in water but insoluble after complexing with NO

## Advantages

NO is therapeutically useful. Small micellar self-assemblies are formed after conversion of secondary amines into N-diazoniumdiolates, termed NONOation, are capable of penetrating complex tissue structures. In the context of cardiovascular medicine, coronary arterial atherosclerosis is closely related to endothelial dysfunction and patho-

physiologically altered homeostasis. Surgically, percutaneous transluminal coronary angioplasty (PTCA) is performed to restore blood flow in occluded lesions but is hampered by post-PTCA restenosis due to the mechanical stimuli of dilation and interactions with the stent. To prevent post-PTCA restenosis, conventional approaches have focused on local drug delivery with inhibitors of cell migration and proliferation.

## Applications

- delivery of NO to various tissue targets
- accelerating wound-healing
- preventing post-operational abdominal adhesion formation