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Routing based on FRET for in-body nanonetworks

Nanocommunications is understood as communications between nanoscale devices that can be located e.g. inside human body for medical purposes. While solutions for point-to-point nanocommunications have been already proposed, networks composed of more than few nanonodes cannot function properly without routing. In this technical document, we focus on the nanocommunications via Förster Resonance Energy Transfer (FRET) and discuss how to route signals through in-body nanonetworks. We introduce five new routing mechanisms, based on biological properties of specific molecules. We experimentally validate one of these mechanisms. Finally, we analyze open issues showing the technical challenges for signal transmission and routing in FRET-based nanocommunications.

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