Supporting Information

Highly-Efficient Guiding of Motile Microtubules
on Non-Topographical Motor Patterns

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Movie_S1

Guided motility of microtubules along non-topographical kinesin-1 tracks with different curvatures. The tracks were generated on a PLL-PEG coated surface using a UV-laser-based patterning technique. The location of the tracks was inferred from a fluorescent micrograph of fluorescein-labeled casein molecules (shown in green). Real-time images of microtubules (labeled with rhodamine, shown in red) are superimposed.

Movie_S2

Microtubule motility on a periodic pattern of arc segments of kinesin-1 molecules. The pattern layout was adapted from the simulation results of Rupp and Nedelec (*Lab Chip* **2012,** 12, 4903-4910) for directed transport. The arc-pattern was generated on a PLL-PEG coated surface using a UV-laser-based patterning technique. The location of the tracks was inferred from a fluorescent micrograph of fluorescein-labeled casein molecules (shown in green). Real-time images of microtubules (labeled with rhodamine, shown in red) are superimposed.