Multi-stage spiral-type structured catalyst system for direct largescale methanation of industrial CO₂ emissions: A feasibility study

Hiroshi Akama^a, Ryo Watanabe^a, Priyanka Verma^b, Choji Fukuhara^{a,*}

a) Department of Applied Chemistry and Biochemical Engineering, Graduate School of Engineering, Shizuoka University, 3-5-1 Johoku, Naka-ku, Hamamatsu, Shizuoka 432-8561, Japan b) Department of Chemistry, Indian Institute of Technology Delhi, Hauz Khas, New Delhi, 110016, India (*) corresponding author: fukuhara.choji@shizuoka.ac.jp Fig. S1. (a) The spiral-shaped aluminum plate substrate and (b) Spiral-type structured catalyst prepared by wash-coating on the twisted aluminum plate.

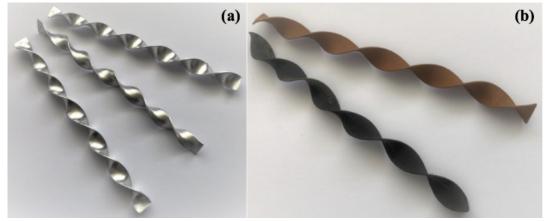


Fig. S2. Reactor with insulation made of alkaline earth silicate around the reaction glass tube.