

Article

Supplementary Materials: Influence of Pyrolysis Temperature and TiO₂-Incorporation on Properties of SiOC/SiC Composites for Efficient Wastewater Treatment Applications

Natália C. Fontão ¹, Lucas N. Ferrari ^{1,2}, Joice C. Sapatieri ^{1,3}, Kurosch Rezwan ^{1,4} and Michaela Wilhelm ^{1,*}

¹ Advanced Ceramics, University of Bremen, 28359 Bremen, Germany

² Department of Mechanical Engineering, Federal University of Santa Catarina, Florianopolis 88040-900, Brazil

³ Department of Chemical Engineering and Food Engineering, Federal University of Santa Catarina, Florianopolis 88040-900, Brazil

⁴ MAPEX – Centre for Materials and Processes, University of Bremen, 28359 Bremen, Germany

* Correspondence: mwilhelm@uni-bremen.de

Supplementary Data

Table S1. Membrane composition

Sample	MK (g)	H44 (g)	AZO (g)	SiC (g)	TiO ₂ (g)	Imidazole (g)
T0_Si59	2.0	2.0	3.0	5.9	0	0.1
T5_Si54	2.0	2.0	3.0	5.4	0.5	0.1
T10_Si49	2.0	2.0	3.0	4.9	1.0	0.1

Citation: Fontão, N.C.; Ferrari, L.N.; Sapatieri, J.C.; Rezwan, K.; Wilhelm, M. Influence of Pyrolysis Temperature and TiO₂-Incorporation on Properties of SiOC/SiC Composites for Efficient Wastewater Treatment Applications. *Membranes* **2022**, *12*, 175. <https://doi.org/10.3390/membranes12020175>

Academic Editor: Alfredo Cassano

Received: 5 January 2022

Accepted: 28 January 2022

Published: 2 February 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

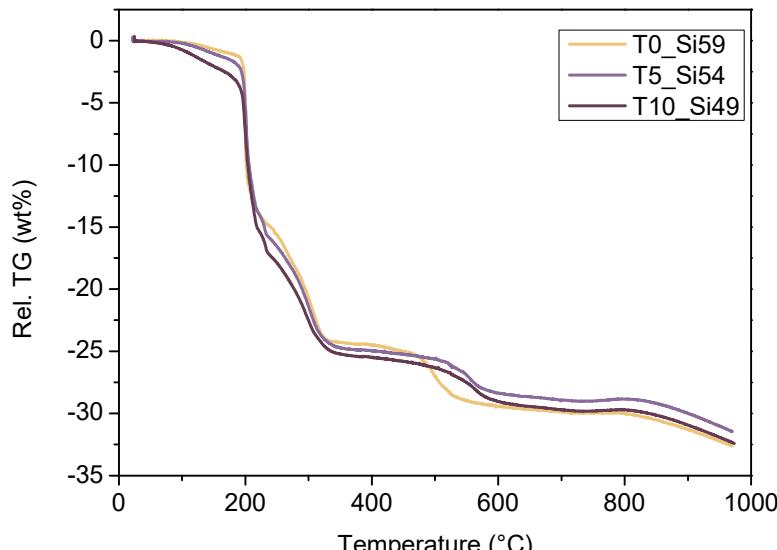


Figure S1. Thermal Gravimetric analysis for samples T0_Si59, T5_Si54 and T10_Si49.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

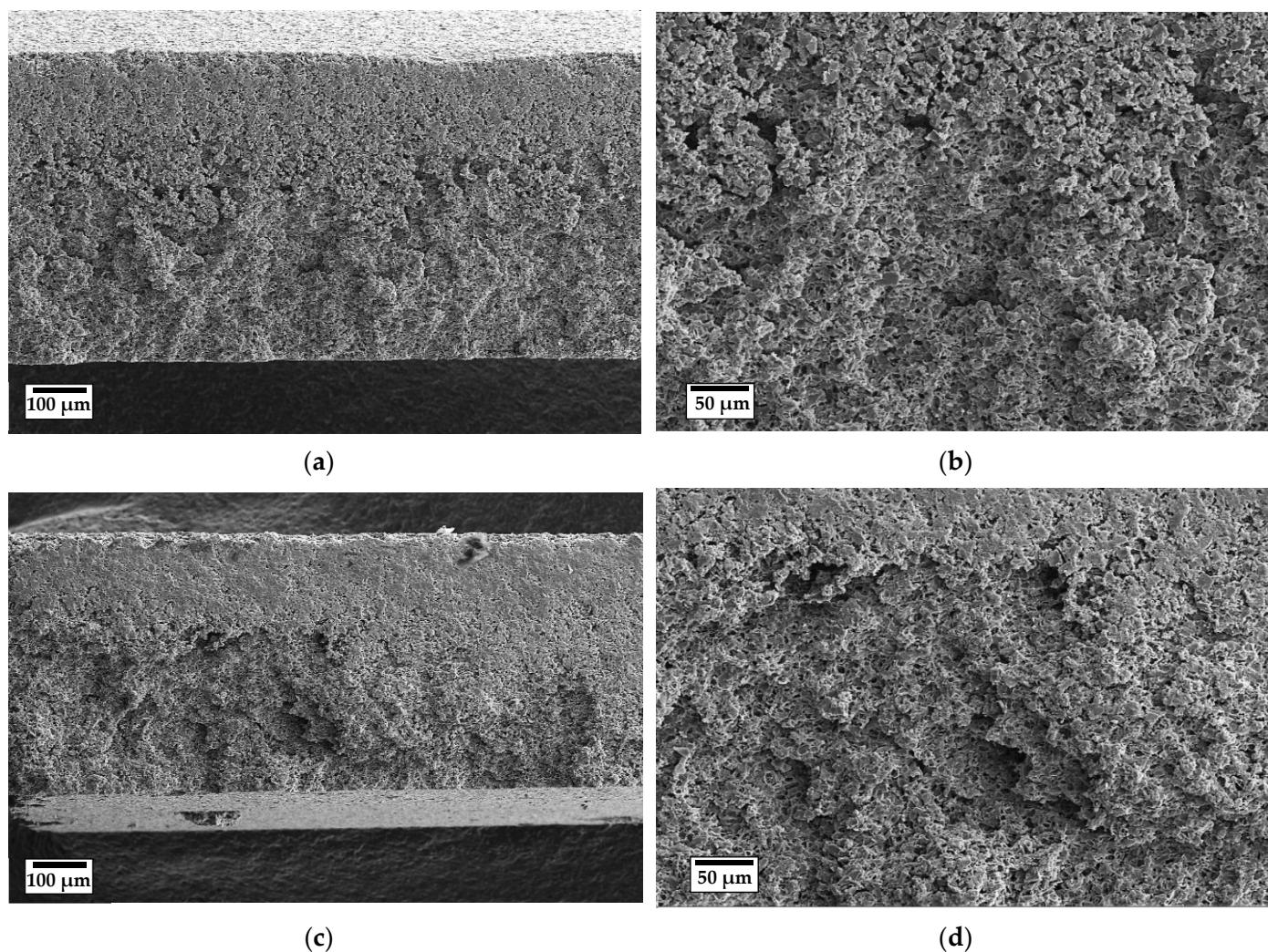


Figure S2. SEM images of the cross-section areas of samples T0_Si59-700 (**a,b**) and T10_Si59-700 8 (**c,d**) revealing symmetrical sponge-like structures.

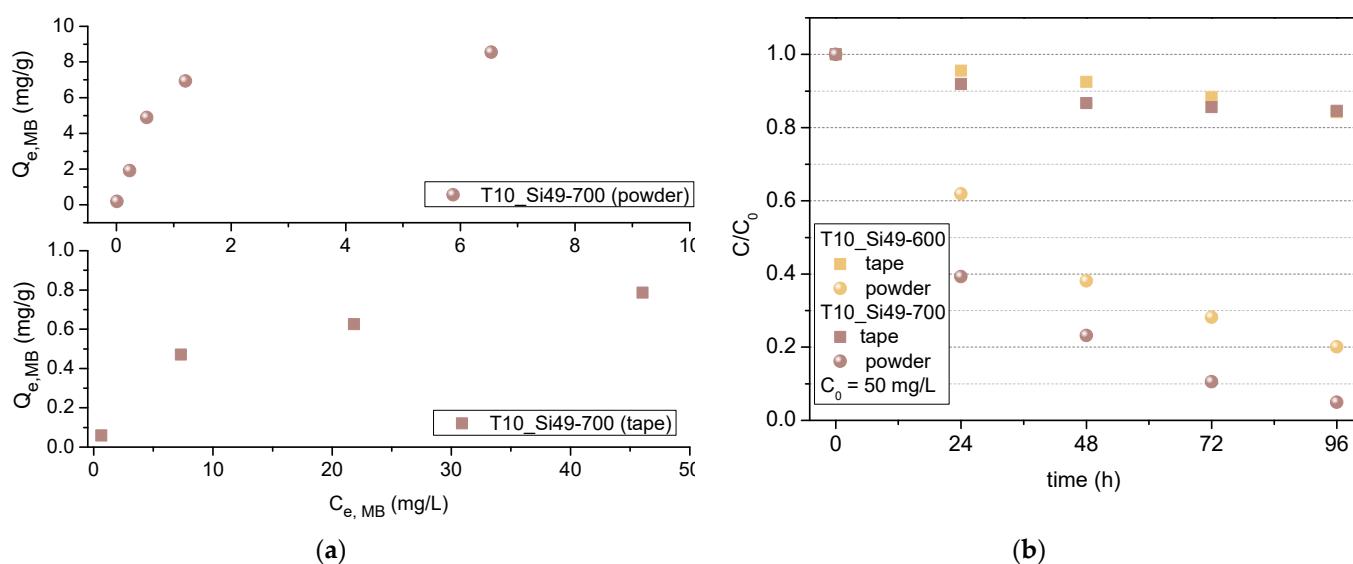


Figure S3. (a) MB adsorption isotherms of the sample T10-700 as a powder and as a tape. (b) MB removal over time using samples T10-600 and T10-700 as powders and as tapes (96 h).

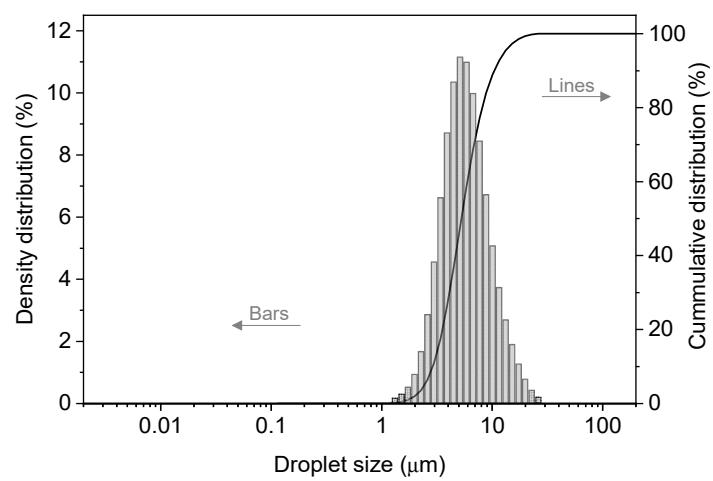


Figure S4. Droplet size distribution of the feed O/W emulsion (MCT oil, C₀ = 1000 mg/L).