

Supporting Information

Facile preparation of V₂O₃/carbon fiber composite and its application for long-term performance lithium-ion batteries

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Table S1 Comparison of specific capacities and long-term cycling performances of the V₂O₃-based electrodes.

materials	specific capacity (mAh/g)	current density (A/g)	cycling numbers	ref
V ₂ O ₃ -based hybrid nanorods in aqueous electrolyte	79	0.18	50 cycles	S1
V ₂ O ₃ @C composite	230	5	50 cycles	S2
V ₂ O ₃ -OMC	536	0.1	180 cycles	S3
V ₂ O ₃ /C NCs	780	0.2	100 cycles	S4
Yolk-Shell V ₂ O ₃ /C microsphere	438	0.1	100 cycles	S5
V ₂ O ₃ /C composite	~750	0.25	50 cycles	S6
crystalline V ₂ O ₃ microspheres	245	2	9000 cycles	S7
V ₂ O ₃ -rGO	350	1.86	1000 cycles	S8
V ₂ O ₃ @C micro/nanostructures	333	2	200 cycles	S9
V ₂ O ₃ -CNFs	543	0.5	500 cycles	our work
V ₂ O ₃ -CNFs	203	4	1000 cycles	our work

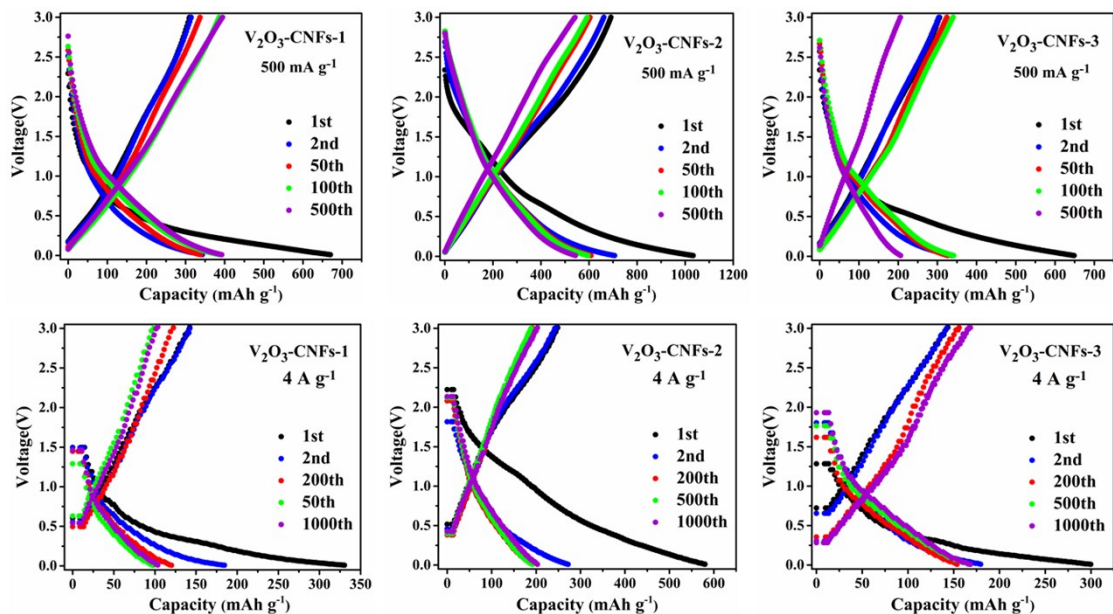


Fig. S1 Galvanostatic charge/discharge curves of $V_2O_3/CNFs$ at a cycling rate of 0.5 A g^{-1} and 4 A g^{-1} .

Refs:

- [S1] Y. F. Sun, S. S. Jiang, W. T. Bi, C. Z. Wu and Y. Xie, *J. Power Sources*, 2011, 196, 8644–8650.
- [S2] Y. Wang, H. J. Zhang, A. S. Admar, J. Z. Luo, C. C. Wong, A. Borgna and J. Y. Lin, *RSC Adv.*, 2012, 2, 5748–5753.
- [S3] L. X. Zeng, C. Zheng, J. C. Xi, H. L. Fei and M. D. Wei, *Carbon*, 2013, 62, 382–388.
- [S4] Y. Dong, R. Ma, M. Hu, H. Cheng, J. M. Lee, Y. Y. Li and J. A. Zapien, *J. Power Sources*, 2014, 261, 184–187.
- [S5] L. Jiang, Y. Qu, Z. Y. Ren, P. Yu, D. D. Zhao, W. Zhou, L. Wang and H. G. Fu, *ACS Appl. Mater. Interfaces*, 2015, 7, 1595–1601.
- [S6] Y. Shi, Z. Zhang, D. Wexler, S. Chou, J. Gao, H. D. Abruna, H. Li, H. Liu, Y. Wu and J. Wang, *J. Power Sources*, 2015, 275, 392–398.
- [S7] C. Niu, M. Huang, P. Wang, J. Meng, X. Liu, X. Wang, K. Zhao, Y. Yu, Y. Wu, C. Lin and L. Mai, *Nano Res.*, 2016, 1, 128–138.
- [S8] J. Leng, H. Mei, L. Zhan, Y. Wang, S. Yang and Y. Song, *Electrochim. Acta*, 2017, 231, 732–738.
- [S9] P. Liu, K. Zhu, Y. Xu, K. Bian, J. Wang, G. Tai, Y. Gao, H. Luo, L. Lu and J. Liu, *Chem. Eur. J.*, 2017, DOI: 10.1002/chem.201700369.