

Effects of different CO₂ concentrations and degradation media on static corrosion of commercially pure zinc

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Figure.S1: C1s HR details for samples under ambient condition.

Zn_{BASE}	Band	Position		FWHM	%Gauss	%Area	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
	1	284.8	0.1	1.6	70	69.7	0.8
Zn_{HSS}	2	286.5	0.1	1.6	70	16.4	1.9
	3	288.7	0.1	1.6	70	13.2	1.6
	4	291.1	0.0	1.6	70	0.7	0.7
Zn_{HSS}	Band	Position		FWHM	%Gauss	%Area	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
	1	284.8	0.0	1.6	70	84.5	0.9
Zn_{PSS}	2	286.5	0.1	1.6	70	5.5	0.9
	3	288.4	0.0	1.6	70	5.1	0.1
	4	289.8	0.1	1.6	70	4.8	1.4
Zn_{PSS}	Band	Position		FWHM	%Gauss	%Area	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
	1	284.8	0.1	1.6	70	73.8	6.7
Zn_{NSS}	2	286.9	0.4	1.6	70	7.4	1.9
	3	289.1	0.0	1.6	70	9.8	3.6
	4	291.2	0.2	1.6	70	9.0	1.4
Zn_{NSS}	Band	Position		FWHM	%Gauss	%Area	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
	1	284.8	0.1	1.6	70	55.2	5.5
Zn_{NSS}	2	286.8	0.4	1.6	70	12.0	3.4
	3	289.4	166.5	1.6	70	24.4	7.4
	4	291.1	166.9	1.6	70	8.5	3.5

Figure.S2: C1s HR details for samples immersed in 5 vol. % CO₂.

<i>Zn_{BASE}</i>	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
	1	284.8	0.1	1.6	70	69.7	0.8
<i>Zn_{HSS}</i>	2	286.5	0.1	1.6	70	16.4	1.9
	3	288.7	0.1	1.6	70	13.2	1.6
	4	291.1	0.0	1.6	70	0.7	0.7
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{PSS}</i>	1	284.8	0.0	1.6	70	90.6	6.1
	2	286.8	0.1	1.6	70	4.8	2.3
	3	289.3	0.2	1.6	70	3.1	3.0
	4	291.1	0.0	1.6	70	1.4	1.6
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{NSS}</i>	1	284.8	0.0	1.6	70	68.8	5.6
	2	286.5	0.0	1.6	70	17.1	3.4
	3	288.9	0.1	1.6	70	9.8	1.9
	4	291.1	0.0	1.6	70	4.3	0.6
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
	1	284.6	0.0	1.6	70	44.5	5.0
<i>Zn_{NSS}</i>	2	286.4	0.2	1.6	70	12.5	2.0
	3	289.0	0.8	1.6	70	27.0	14.8
	4	290.5	0.8	1.6	70	16.0	17.9

Figure S3: O1s HR details for samples immersed in ambient atmosphere.

	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{BASE}</i>	1	528.6	0.0	1.6	70	4.1	1.6
	2	531.0	0.1	1.6	70	92.3	2.4
	3	533.2	0.0	1.6	70	3.6	1.0
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{HSS}</i>	1	530.2	0.0	1.6	70.0	11.0	7.1
	2	531.1	0.0	1.6	70.0	83.8	6.1
	3	532.6	0.0	1.6	70.0	5.2	1.9
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{PSS}</i>	1	528.6	0.5	1.6	70.0	2.8	1.3
	2	531.0	0.0	1.6	70.0	88.5	1.1
	3	532.6	0.0	1.6	70.0	8.7	1.2
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{NSS}</i>	1	527.5	1.6	1.6	70.0	5.6	6.2
	2	530.0	1.4	1.6	70.0	36.0	47.1
	3	531.8	1.3	1.6	70.0	58.3	47.3

Figure S4: O1s HR details for samples immersed in 5 vol. % CO₂.

	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{BASE}</i>	1	528.6	0.0	1.6	70.0	4.1	1.6
	2	531.0	0.1	1.6	70.0	92.3	2.4
	3	533.2	0.0	1.6	70.0	3.6	1.0
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{HSS}</i>	1	526.6	0.0	1.6	70.0	0.3	0.5
	2	531.1	0.0	1.6	70.0	98.6	0.7
	3	533.2	0.0	1.6	70.0	1.1	0.2
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{PSS}</i>	1	527.2	1.1	1.6	70.0	3.0	2.1
	2	531.1	0.0	1.6	70.0	93.1	5.7
	3	533.2	0.0	1.6	70.0	3.8	4.0
	<i>Band</i>	<i>Position</i>		<i>FWHM</i>	<i>%Gauss</i>	<i>%Area</i>	
		<i>m</i>	<i>s</i>			<i>m</i>	<i>s</i>
<i>Zn_{NSS}</i>	1	528.3	0.4	1.6	70.0	2.2	0.8
	2	531.0	0.1	1.6	70.0	96.3	3.1
	3	533.2	0.0	1.6	70.0	1.5	2.3