Jin Bai

List of Publications by Year
in descending order

142 papers	5,419 citations	94269 37 h-index	106150 65 g-index
142 all docs	142 docs citations	142 times ranked	3935 citing authors

#	Article	IF	Citations
1	Reduced carbon emission estimates from fossil fuel combustion and cement production in China. Nature, 2015, 524, 335-338.	13.7	1,185
2	High-performance phosphide/carbon counter electrode for both iodide and organic redox couples in dye-sensitized solar cells. Journal of Materials Chemistry, 2012, 22, 11121.	6.7	129
3	Hydrodesulfurization of dibenzothiophene and its hydrogenated intermediates over bulk MoP. Journal of Catalysis, 2012, 287, 161-169.	3.1	124
4	Characterization of low-temperature coal ash behaviors at high temperatures under reducing atmosphere. Fuel, 2008, 87, 583-591.	3.4	114
5	Effect of SiO 2 /Al 2 O 3 on fusion behavior of coal ash at high temperature. Fuel, 2017, 193, 275-283.	3.4	109
6	Effects of CaCO3 on slag flow properties at high temperatures. Fuel, 2013, 109, 76-85.	3.4	93
7	Construction of a 2D/2D g-C₃N₄/rGO hybrid heterojunction catalyst with outstanding charge separation ability and nitrogen photofixation performance via a surface protonation process. RSC Advances, 2016, 6, 25695-25702.	1.7	85
8	Thermomechanical analysis of coal ash fusion behavior. Chemical Engineering Science, 2016, 147, 74-82.	1.9	83
9	Effects of organic solvent treatment on the chemical structure and pyrolysis reactivity of brown coal. Fuel, 2014, 128, 39-45.	3.4	80
10	Effect of CaO/Fe2O3 on fusion behaviors of coal ash at high temperatures. Fuel Processing Technology, 2018, 181, 18-24.	3.7	77
11	The key for sodium-rich coal utilization in entrained flow gasifier: The role of sodium on slag viscosity-temperature behavior at high temperatures. Applied Energy, 2017, 206, 1241-1249.	5.1	76
12	Mineral Transformation in Char and Its Effect on Coal Char Gasification Reactivity at High Temperatures, Part 1: Mineral Transformation in Char. Energy & Fuels, 2013, 27, 4545-4554.	2.5	63
13	Viscosity-temperature property of coal ash slag at the condition of entrained flow gasification: A review. Fuel Processing Technology, 2021, 215, 106751.	3.7	63
14	Nitrogen migration mechanism and formation of aromatics during catalytic fast pyrolysis of sewage sludge over metal-loaded HZSM-5. Fuel, 2019, 244, 151-158.	3.4	61
15	Preparation of hierarchical HZSM-5 based sulfated zirconium solid acid catalyst for catalytic upgrading of pyrolysis vapors from lignite pyrolysis. Fuel, 2019, 237, 1079-1085.	3.4	58
16	Effect of Na2O on mineral transformation of coal ash under high temperature gasification condition. Journal of Fuel Chemistry and Technology, 2016, 44, 263-272.	0.9	56
17	Study on fusibility of coal ash rich in sodium and sulfur by synthetic ash under different atmospheres. Fuel, 2017, 202, 175-183.	3.4	55
18	Mineral Transformation in Char and Its Effect on Coal Char Gasification Reactivity at High Temperatures, Part 2: Char Gasification. Energy & Fuels, 2014, 28, 1846-1853.	2.5	53

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19	An approach for utilization of direct coal liquefaction residue: Blending with low-rank coal to prepare slurries for gasification. Fuel, 2015, 145, 143-150.	3.4	53
20	Effect of CaO/Na2O on slag viscosity behavior under entrained flow gasification conditions. Fuel Processing Technology, 2018, 181, 352-360.	3.7	53
21	The internal and external factor on coal ash slag viscosity at high temperatures, Part 1: Effect of cooling rate on slag viscosity, measured continuously. Fuel, 2015, 158, 968-975.	3.4	51
22	Ash and slag properties for co-gasification of sewage sludge and coal: An experimentally validated modeling approach. Fuel Processing Technology, 2018, 175, 1-9.	3.7	51
23	The correlation between coal char structure and reactivity at rapid heating condition in TGA and heating stage microscope. Fuel, 2020, 260, 116318.	3.4	51
24	Improvement of ash flow properties of low-rank coal for entrained flow gasifier. Fuel, 2014, 120, 122-129.	3.4	50
25	The internal and external factor on coal ash slag viscosity at high temperatures, Part 3: Effect of CaO on the pattern of viscosityâ€"temperature curves of slag. Fuel, 2016, 179, 10-16.	3.4	48
26	Transformations and Roles of Sodium Species with Different Occurrence Modes in Direct Liquefaction of Zhundong Coal from Xinjiang, Northwestern China. Energy & Fuels, 2015, 29, 5633-5639.	2.5	47
27	Effects of atmosphere on the oxidation state of iron and viscosity behavior of coal ash slag. Fuel, 2019, 243, 41-51.	3.4	47
28	Co-liquefaction of lignite and sawdust under syngas. Fuel Processing Technology, 2011, 92, 119-125.	3.7	46
29	Effect of chemical composition on the fusion behaviour of synthetic high-iron coal ash. Fuel, 2019, 253, 1465-1472.	3.4	46
30	The internal and external factor on coal ash slag viscosity at high temperatures, Part 2: Effect of residual carbon on slag viscosity. Fuel, 2015, 158, 976-982.	3.4	45
31	Transformation and roles of inherent mineral matter in direct coal liquefaction: A mini-review. Fuel, 2017, 197, 209-216.	3.4	45
32	Physico-chemical structure and combustion properties of chars derived from co-pyrolysis of lignite with direct coal liquefaction residue. Fuel, 2017, 187, 103-110.	3.4	45
33	Different role of H2S and dibenzothiophene in the incorporation of sulfur in the surface of bulk MoP during hydrodesulfurization. Journal of Catalysis, 2013, 300, 197-200.	3.1	43
34	Effect of CaO/Fe2O3 ratio on slag viscosity behavior under entrained flow gasification conditions. Fuel, 2019, 258, 116129.	3.4	43
35	Effects of phenolic hydroxyl and carboxyl groups on the concentration of different forms of water in brown coal and their dewatering energy. Fuel Processing Technology, 2016, 154, 7-18.	3.7	42
36	Study on the preheating stage of low rank coals liquefaction: Product distribution, chemical structural change of coal and hydrogen transfer. Fuel Processing Technology, 2017, 159, 153-159.	3.7	41

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37	Direct liquefaction of a Chinese brown coal and CO_2 gasification of the residues. Fuel, 2014, 136, 280-286.	3.4	40
38	Effect of K_2O/Na_2O on fusion behavior of coal ash with high silicon and aluminum level. Fuel, 2020, 265, 116964.	3.4	40
39	Behavior of Minerals in Typical Shanxi Coking Coal during Pyrolysis. Energy & Fuels, 2015, 29, 6912-6919.	2.5	39
40	The precipitation of metallic iron from coal ash slag in the entrained flow coal gasifier: By thermodynamic calculation. Fuel Processing Technology, 2017, 162, 98-104.	3.7	37
41	Influences of minerals transformation on the reactivity of high temperature char gasification. Fuel Processing Technology, 2010, 91, 404-409.	3.7	36
42	Effects of Mineral Matter and Coal Blending on Gasification. Energy & Fuels, 2011, 25, 1127-1131.	2.5	36
43	Effect of solvent and atmosphere on product distribution, hydrogen consumption and coal structural change during preheating stage in direct coal liquefaction. Fuel, 2018, 211, 783-788.	3.4	36
44	Iron transformation behavior in coal ash slag in the entrained flow gasifier and the application for Yanzhou coal. Fuel, 2019, 237, 851-859.	3.4	36
45	A review of the state-of-the-art research on carbon structure evolution during the coking process: From plastic layer chemistry to 3D carbon structure establishment. Fuel, 2020, 271, 117657.	3.4	36
46	Char reactivity and kinetics based on the dynamic char structure during gasification by CO_2. Fuel Processing Technology, 2021, 211, 106583.	3.7	36
47	An overview of the coal ash transition process from solid to slag. Fuel, 2021, 287, 119537.	3.4	36
48	Effect of V and Ni on Ash Fusion Temperatures. Energy & Fuels, 2013, 27, 7303-7313.	2.5	35
49	Transformations of pyrite in different associations during pyrolysis of coal. Fuel Processing Technology, 2015, 131, 304-310.	3.7	35
50	Comparative study of low-temperature pyrolysis and solvent treatment on upgrading and hydro-liquefaction of brown coal. Fuel, 2017, 199, 598-605.	3.4	35
51	Coal ash fusion properties from molecular dynamics simulation: the role of calcium oxide. Fuel, 2018, 216, 760-767.	3.4	35
52	Improved prediction of critical-viscosity temperature by fusion behavior of coal ash. Fuel, 2019, 253, 1521-1530.	3.4	30
53	Correlation between the Combustion Behavior of Brown Coal Char and Its Aromaticity and Pore Structure. Energy & Fuels, 2016, 30, 3419-3427.	2.5	29
54	A new method of estimating the liquidus temperature of coal ash slag using ash composition. Chemical Engineering Science, 2018, 175, 278-285.	1.9	29

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55	Effect of water vapor on coal ash slag viscosity under gasification condition. Fuel, 2019, 237, 18-27.	3.4	29
56	Correlation between Char Gasification Characteristics at Different Stages and Microstructure of Char by Combining X-ray Diffraction and Raman Spectroscopy. Energy & Fuels, 2020, 34, 4162-4172.	2.5	29
57	Interactions during co-pyrolysis of direct coal liquefaction residue with lignite and the kinetic analysis. Fuel, 2018, 215, 438-445.	3.4	28
58	Viscosity temperature properties from molecular dynamics simulation: The role of calcium oxide, sodium oxide and ferrous oxide. Fuel, 2019, 237, 163-169.	3.4	28
59	Effect of coal particle size on distribution and thermal behavior of pyrite during pyrolysis. Fuel, 2015, 148, 145-151.	3.4	27
60	Viscosity of coal ash slag containing vanadium and nickel. Fuel Processing Technology, 2015, 136, 25-33.	3.7	27
61	The role of residual char on ash flow behavior, Part 1: The effect of graphitization degree of residual char on ash fusibility. Fuel, 2018, 234, 1173-1180.	3.4	26
62	Comprehensive evaluation of inherent mineral composition and carbon structure parameters on CO2 reactivity of metallurgical coke. Fuel, 2019, 235, 647-657.	3.4	26
63	Chemical structure and reactivity alterations of brown coals during thermal treatment with aromatic solvents. Fuel Processing Technology, 2015, 137, 117-123.	3.7	25
64	The role of residual char on ash flow behavior, Part 2: Effect of SiO2/Al2O3 on ash fusibility and carbothermal reaction. Fuel, 2019, 255, 115846.	3.4	25
65	Effect of CaO/Fe2O3 ratio on fusibility of coal ashes with high silica and alumina levels and prediction. Fuel, 2020, 260, 116369.	3.4	25
66	Hydrodesulfurization of Dibenzothiophene and its Hydrogenated Intermediates Over Bulk Ni2P. Topics in Catalysis, 2011, 54, 290-298.	1.3	24
67	Mineral Transformation in Char and Its Effect on Coal Char Gasification Reactivity at High Temperatures Part 3: Carbon Thermal Reaction. Energy & Fuels, 2014, 28, 3066-3073.	2.5	24
68	Decomposition kinetics of hydrogen bonds in coal by a new method of in-situ diffuse reflectance FT-IR. Journal of Fuel Chemistry and Technology, 2011, 39, 321-327.	0.9	23
69	The mineral evolution during coal washing and its effect on ash fusion characteristics of Shanxi high ash coals. Fuel, 2018, 212, 268-273.	3.4	23
70	Effects of ionic catalysis on hydrogen production by the steam gasification of cellulose. International Journal of Hydrogen Energy, 2010, 35, 4459-4465.	3.8	22
71	Properties of direct coal liquefaction residue water slurry: Effect of treatment by low temperature pyrolysis. Fuel, 2016, 179, 135-140.	3.4	22
72	Role of hydrogen donor and non-donor binary solvents in product distribution and hydrogen consumption during direct coal liquefaction. Fuel Processing Technology, 2018, 173, 75-80.	3.7	22

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73	In-situ analysis of the effect of CaO/Fe2O3 addition on ash melting and sintering behavior for slagging-type applications. Fuel, 2021, 285, 119090.	3.4	22
74	Effect of lime addition on slag fluidity of coal ash. Journal of Fuel Chemistry and Technology, 2011, 39, 407-411.	0.9	21
75	Insight into the Effects of Sodium Species with Different Occurrence Modes on the Structural Features of Residues Derived from Direct Liquefaction of Zhundong Coal by Multiple Techniques. Energy & Fuels, 2015, 29, 7142-7149.	2.5	21
76	Effect of Ca2+ species with different modes of occurrence on direct liquefaction of a calcium-rich lignite. Fuel Processing Technology, 2015, 133, 161-166.	3.7	21
77	Transformation of minerals in direct coal liquefaction residue under gasification atmosphere at high temperatures. Journal of Fuel Chemistry and Technology, 2015, 43, 257-265.	0.9	21
78	Effect of Vanadium on the Petroleum Coke Ash Fusibility. Energy & Fuels, 2017, 31, 2530-2537.	2.5	21
79	The factors on metallic iron crystallization from slag of direct coal liquefaction residue SiO2-Al2O3-Fe2O3-CaO-MgO-TiO2-Na2O-K2O system in the entrained flow gasification condition. Fuel, 2019, 246, 417-424.	3.4	21
80	Flow properties of ash and slag under co-gasification of coal and extract residue of direct coal liquefaction residue. Fuel, 2020, 264, 116850.	3.4	21
81	Chemical structure transformation during the later stage of plastic layers during coking using Synchrotron infrared microspectroscopy technique. Fuel, 2020, 273, 117764.	3.4	21
82	Viscosity and crystallisation behaviour of coal ash slag from the primary phase of anorthite. Fuel Processing Technology, 2021, 213, 106680.	3.7	21
83	Mechanism of carbon structure transformation in plastic layer and semi-coke during coking of Australian metallurgical coals. Fuel, 2022, 315, 123205.	3.4	21
84	Insight into the charging methods effects during clean recycling of plastic by co-pyrolysis with low-rank coal. Journal of Cleaner Production, 2022, 333, 130168.	4.6	20
85	Inappropriateness of the Standard Method in Sulfur Form Analysis of Char from Coal Pyrolysis. Energy & Fuels, 2012, 26, 5837-5842.	2.5	19
86	Effects of mineral matters and hydrogen bonding on rheological behaviors of brown coalâ€“oil slurries. Fuel, 2014, 132, 187-193.	3.4	19
87	Structure and flow properties of coal ash slag using ring statistics and molecular dynamics simulation: Role of CaO/Na2O in SiO2â€“Al2O3â€“CaOâ€“Na2O. Chemical Engineering Science, 2021, 231, 116285.	1.9	19
88	Ash Fusion Properties from Molecular Dynamics Simulation: Role of the Ratio of Silicon and Aluminum. Energy & Fuels, 2016, 30, 2407-2413.	2.5	18
89	Effect of water vapor on viscosity behavior of coal slags with high silicon-aluminum level under gasification condition. Fuel, 2020, 260, 116351.	3.4	18
90	Direct liquefaction of sawdust under syngas with and without catalyst. Chemical Engineering and Processing: Process Intensification, 2007, 46, 187-192.	1.8	17

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91	Synergistic effects during co-pyrolysis and liquefaction of biomass and lignite under syngas. Journal of Thermal Analysis and Calorimetry, 2015, 119, 2133-2140.	2.0	17
92	Predicting the vanadium speciation during petroleum coke gasification by thermodynamic equilibrium calculation. Fuel, 2016, 176, 48-55.	3.4	17
93	Effects of temperature and solvents on structure variation of Yunnan lignite in preheating stage of direct liquefaction. Fuel, 2019, 239, 917-925.	3.4	17
94	Crystallization kinetics and TCV prediction of coal ash slag under slag tapping conditions in an entrained flow gasifier. Fuel, 2020, 272, 117723.	3.4	17
95	Experimental and theoretical investigation on relationship between structures of coal ash and its fusibility for Al2O3-SiO2-CaO-FeO system. Journal of Fuel Chemistry and Technology, 2019, 47, 641-648.	0.9	16
96	Study on the pyrolysis characteristic of mild liquefaction solid product of Hami coal and CO2 gasification of its char. Fuel, 2019, 253, 1034-1041.	3.4	16
97	Mechanism of Ca Additive Acting as a Deterrent to Na₂CO₃ Deactivation during Catalytic Coal Gasification. Energy & Fuels, 2019, 33, 938-945.	2.5	16
98	Thermal behavior of Mongolian low-rank coals during pyrolysis. Carbon Resources Conversion, 2021, 4, 19-27.	3.2	16
99	Behaviors of hydrogen bonds formed by lignite and aromatic solvents in direct coal liquefaction: Combination analysis of density functional theory and experimental methods. Fuel, 2020, 265, 117011.	3.4	15
100	Influence of different biomass ash additive on anthracite pyrolysis process and char gasification reactivity. International Journal of Coal Science and Technology, 2020, 7, 464-475.	2.7	15
101	Characterization of slag from anthracite gasification in moving bed slagging gasifier. Fuel, 2021, 292, 120390.	3.4	15
102	The crystallization behavior of anorthite in coal ash slag under gasification condition. Chemical Engineering Journal, 2022, 445, 136683.	6.6	15
103	Effects of chromium ion on sulfur removal during pyrolysis and hydropyrolysis of coal. Journal of Analytical and Applied Pyrolysis, 2012, 97, 143-148.	2.6	14
104	Effects of Aromatic Solvents and Temperature on Rearrangement of Hydrogen Bonds in Brown Coals. Energy & Fuels, 2013, 27, 6419-6429.	2.5	14
105	Viscosity of Spinel Primary Phase Field Slags from Australian Brown Coals. Energy & Fuels, 2020, 34, 3041-3056.	2.5	14
106	Comparison study of fusibility between coal ash and synthetic ash. Fuel Processing Technology, 2021, 211, 106593.	3.7	14
107	Effects of ion-exchanged calcium, barium and magnesium on cross-linking reactions during direct liquefaction of oxidized lignite. Fuel Processing Technology, 2012, 94, 34-39.	3.7	13
108	The viscosity and crystallization behavior of slag from co-gasification of coal and extraction residue from direct coal liquefaction residue at high temperatures. Fuel, 2021, 285, 119119.	3.4	13

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109	The fusion mechanism of complex minerals mixture and prediction model for flow temperature of coal ash for gasification. Fuel, 2021, 305, 121448.	3.4	13
110	Effect of phosphorus-based additives on ash fusion characteristics of high-sodium coal under gasification condition. Fuel, 2022, 317, 123472.	3.4	13
111	Influences of exchangeable metallic species on solvent extraction of Xiaolongtan lignite and characterization of the separated portions. Fuel Processing Technology, 2015, 138, 42-47.	3.7	12
112	The role of residual char on ash flow behavior, Part 3: Effect of Fe2O3 content on ash fusibility and carbothermal reaction. Fuel, 2020, 280, 118705.	3.4	12
113	Modification of ash flow properties of coal rich in calcium and iron by coal gangue addition. Chinese Journal of Chemical Engineering, 2021, 35, 239-246.	1.7	12
114	Investigation of coal-biomass interaction during co-pyrolysis by char separation and its effect on coal char structure and gasification reactivity with CO2. Journal of Fuel Chemistry and Technology, 2020, 48, 897-907.	0.9	12
115	Co-pyrolysis of mild liquefaction solid product and low rank coals: Products distributions, products properties and interactions. Fuel, 2021, 306, 121719.	3.4	12
116	Occurrence and transformation of sodium and calcium species in mild liquefaction solid product of Hami coal during pyrolysis. Fuel, 2021, 286, 119489.	3.4	11
117	Strength analysis of noncovalent interactions between lignite and direct liquefaction solvents: A joint study of DFT calculations and swelling ratio determination. Fuel, 2021, 299, 120920.	3.4	11
118	Effect of vanadium and nickel on iron-rich ash fusion characteristics. Fuel, 2019, 246, 491-499.	3.4	10
119	Thermochemical and analytical approach to describe secondary slag phase formation and local process conditions in a full-scale BGL gasifier. Fuel Processing Technology, 2021, 217, 106833.	3.7	10
120	Effects of mineral matter and temperatures on conversion of carboxylic acids and their derivatives during pyrolysis of brown coals. Fuel Processing Technology, 2016, 152, 46-55.	3.7	9
121	Dissolution of Cr₂O₃ into Coal Slag and Its Impact on Slag Flow Properties. Energy & Fuels, 2020, 34, 11987-11997.	2.5	9
122	The application of molecular simulation in ash chemistry of coal. Chinese Journal of Chemical Engineering, 2020, 28, 2723-2732.	1.7	9
123	Study on carboxyl groups in direct liquefaction of lignite: Conjoint analysis of theoretical calculations and experimental methods. Fuel, 2021, 286, 119298.	3.4	9
124	The investigation and regulation of fusion characteristics of coal ash with high sulfur and basic oxides level for the slagging gasifier. Fuel, 2022, 311, 122574.	3.4	9
125	Insights into the effect of particle size on coal char particle gasification by thermogravimetric analyzer and high temperature stage microscope. Fuel, 2022, 313, 123010.	3.4	9
126	Interaction between Coal and Biomass during Co-Gasification: A Perspective Based on the Separation of Blended Char. Processes, 2022, 10, 286.	1.3	9

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127	Towards understanding the interactions between mild liquefaction solid product and Hami sub-bituminous coal during their co-pyrolysis. Journal of Analytical and Applied Pyrolysis, 2020, 145, 104742.	2.6	8
128	Influence of water vapor on continuous cooling crystallization characteristics of coal ash slag. Fuel, 2021, 303, 121241.	3.4	8
129	Meta-study on the effect of P2O5 on single phase slag viscosity and the effect of P2O5 induced liquid phase immiscibility on dispersion viscosity. Fuel, 2021, 305, 121501.	3.4	8
130	Measurement and simulation of viscosity characteristics of coal ash slag under water vapor condition in coal gasification. Fuel, 2022, 308, 121882.	3.4	8
131	Effect of iron valence distribution on ash fusion behavior under Ar atmosphere by a metallic iron addition in the synthetic coal ash. Fuel, 2022, 310, 122340.	3.4	8
132	Methods for the determination of composition, mineral phases, and process-relevant behavior of ashes and its modeling: A case study for an alkali-rich ash. Journal of the Energy Institute, 2022, 100, 137-147.	2.7	7
133	The sintering behavior of Fe-based oxygen carrier with straw ash and sawdust ash by thermodynamic and thermomechanical analysis. Fuel Processing Technology, 2022, 235, 107346.	3.7	7
134	Influence of the Slagâ€"Crucible Interaction on Coal Ash Fusion Behavior at High Temperatures. Energy & Fuels, 2020, 34, 3087-3099.	2.5	6
135	Comparison of setups for measuring the viscosity of coal ash slags for entrained-flow gasification. Fuel, 2022, 307, 121777.	3.4	6
136	Influence of coal blending on mineral transformation at high temperatures. Mining Science and Technology, 2009, 19, 300-305.	0.3	5
137	Formation of fine particles (PM10) from Zhundong highâ€'sodium coal at entrained flow gasification condition in a flat-flame burner reactor. Fuel Processing Technology, 2022, 231, 107225.	3.7	5
138	Thermal transformation of tobelite from coal at high temperatures and the kinetics and mechanism of dehydroxylation and deamination process. Fuel Processing Technology, 2016, 144, 203-211.	3.7	4
139	Regulation of high temperature flow properties of ash containing V and Ni. Journal of Fuel Chemistry and Technology, 2017, 45, 1164-1171.	0.9	4
140	Gasification and activation behaviors of coal gangue with Na2CO3 in CO2 atmosphere. Fuel Processing Technology, 2022, 228, 107163.	3.7	4
141	Correction to Effect of Vanadium on the Petroleum Coke Ash Fusibility. Energy & Fuels, 2017, 31, 5710-5710.	2.5	1
142	Carbothermal reactions of tobelite with coal char at high temperatures under N2 atmosphere. Journal of Analytical and Applied Pyrolysis, 2019, 137, 220-226.	2.6	1