Supporting information:

Table S1. Wax deposition characteristics of oil sample 2

Oil temperature /°C	Wall temperature /°C	Rotation speed /(r·min^{-1})	Wall Shear stress /Pa	Oil viscosity /Pa·s	Wax Crystal Solubility Coefficient ×10^{-4}/°C	Temperature gradient /°C·m^{-1}	Wax deposition rate /g·m^{-2}·h^{-1}
40	30	150	2.827	0.165	13.61	573.7	5.28
44	34	150	2.051	0.123	3.65	574.4	2.88
50	40	150	1.471	0.051	4.60	572.4	8.26
52	42	150	1.332	0.046	4.92	571.9	8.88
35	30	150	4.259	0.157	13.61	287.8	3.35
45	30	150	2.293	0.169	13.61	860.1	6.88
50	30	150	1.914	0.172	13.61	1143.3	8.58
47	42	150	1.524	0.046	4.92	286.7	7.03
57	42	150	1.162	0.046	4.92	856.4	13.55
62	42	150	1.030	0.046	4.92	1140.3	15.76
52	42	50	0.444	0.046	4.92	571.9	20.51
52	42	100	0.888	0.046	4.92	571.9	13.89
40	30	50	0.965	0.191	13.61	573.7	8.77
40	30	100	1.902	0.174	13.61	573.7	6.05

Table S2. Wax deposition characteristics of oil sample 3

Oil temperature /°C	Wall temperature /°C	Rotation speed /(r·min^{-1})	Wall Shear stress /Pa	Oil viscosity /Pa·s	Wax Crystal Solubility Coefficient ×10^{-4}/°C	Temperature gradient /°C·m^{-1}	Wax deposition rate /g·m^{-2}·h^{-1}
37	27	150	1.964	0.112	24.06	597.8	10.69
40	30	150	1.617	0.062	13.58	596.1	15.16
43	33	150	1.377	0.047	4.37	595.8	6.58
46	36	150	1.197	0.041	2.40	593.4	4.25
49	39	150	1.041	0.036	3.40	591.2	7.26
51	41	150	0.948	0.032	4.30	590.3	11.99

53	43	150	0.863	0.030	2.98	589.9	9.01
32	27	150	2.477	0.110	24.06	302.7	8.54
42	27	150	1.660	0.113	24.06	894.07	15.52
47	27	150	1.420	0.114	24.06	1185.97	18.83
46	41	150	1.078	0.032	4.35	296.1	8.57
56	41	150	0.834	0.032	4.35	883.4	15.26
61	41	150	0.750	0.032	4.35	1175.3	19.12
51	41	50	0.316	0.032	4.35	590.3	22.11
51	41	100	0.632	0.032	4.35	590.3	15.77
37	27	50	0.660	0.123	24.06	597.8	20.85
37	27	100	1.313	0.116	24.06	597.8	15.02

Table S3. Wax deposition characteristics of oil sample 4

Oil temperature /°C	Wall temperature /°C	Rotation speed /(r·min^{-1})	Wall Shear stress /Pa	Oil viscosity /Pa·s	Wax Crystal Solubility Coefficient ×10^{-4}/°C	Temperature gradient /°C·m^{-1}	Wax deposition rate /g·m^{-2}·h^{-1}
27	17	150	3.602	0.262	25.50	587.3	1.86
32	22	150	1.932	0.110	23.88	574.3	6.86
37	27	150	1.361	0.052	13.13	567.9	10.25
40	30	150	1.185	0.040	4.88	567.7	6.89
43	33	150	1.035	0.035	3.17	566.8	4.24
47	37	150	0.865	0.029	3.98	565.1	5.82
50	40	150	0.756	0.025	2.12	564.7	5.14
22	17	150	6.014	0.221	25.48	295.9	1.21
32	17	150	2.516	0.294	25.48	866.5	2.68
37	17	150	2.003	0.316	25.48	1143.1	3.08
35	30	150	1.337	0.040	4.88	284.1	4.01
45	30	150	1.046	0.040	4.88	848.6	7.85
50	30	150	0.920	0.040	4.88	1128.1	8.51
40	30	50	0.395	0.040	4.88	567.7	11.39
40	30	100	0.790	0.040	4.88	567.7	7.09

27	17	50	1.301	0.368	25.48	587.3	3.06
27	17	100	2.476	0.297	25.48	587.3	2.51

Table S4. Wax deposition characteristics of oil sample 5

Oil temperature /°C	Wall temperature /°C	Rotation speed /(r·min^{-1})	Wall Shear stress /Pa	Oil viscosity /Pa·s	Wax Crystal Solubility Coefficient ×10^{-4}/°C	Temperature gradient /°C·m^{-1}	Wax deposition rate /g·m^{-2}·h^{-1}
28	18	150	2.304	0.075	21.15	596.1	4.88
32	22	150	1.820	0.054	17.93	587.9	7.97
35	25	150	1.219	0.041	9.59	586.2	6.55
39	29	150	0.669	0.034	2.93	584.4	3.55
44	34	150	0.799	0.027	3.40	581.8	4.56
46	36	150	0.762	0.025	1.88	581.3	2.67
23	18	150	5.261	0.071	21.15	303.047	2.29
33	18	150	1.735	0.076	21.15	883.8	6.83
38	18	150	1.451	0.077	21.15	1172.0	7.99
30	25	150	1.368	0.041	9.59	293.9	4.38
40	25	150	1.081	0.041	9.59	875.6	7.65
45	25	150	0.956	0.041	9.59	1162.9	9.85
35	25	50	0.406	0.041	9.59	586.2	16.46
35	25	100	0.812	0.041	9.59	586.2	9.78
28	18	50	0.787	0.081	21.15	596.1	11.13
28	18	100	1.550	0.077	21.15	596.1	6.70