

Table S1: Body length, mass and total surface area of the individual animals investigated (\* = computed based on McHenry and Lauder, 2006, CI: 95% confidence intervals)

Individual	Body length [mm]	Mass* [mg]	Mass CI* [mg]	Total surface area [mm <sup>2</sup> ]	Model total surface area*[mm <sup>2</sup> ]	Model total surface area CI*[mm <sup>2</sup> ]
1	24.04	46.79	[34.85, 64.67]	200.85	176.77	[152.57, 210.93]
2	21.65	32.24	[24.30, 43.99]	171.32	137.15	[119.09,162.51]
3	24.66	48.67	[36.24, 67.42]	220.07	181.61	[156.73,216.97]
4	19.35	23.52	[17.90, 31.73]	127.66	110.61	[96.52,130.28]

Table S2: Flow and pressure characteristics (mean±s. d) for N=18 experiments

Turning type	Turning angle [°]	COM displacement [mm]	Maximum fluid speed [ $\frac{cm}{s}$ ]	Minimum pressure [Pa]	Maximum pressure [Pa]	N
Small angle (<70°)	21.19±7.68	5.21±1.01	3.91±0.65	-1.49±0.47	1.46±0.46	16
Large angle (>70°)	72.91±2.22	7.66±0.77	6.65±1.17	-2.34±0.04	2.37±0.12	2

Table S3: Summary of turning characteristics for N=18 turning maneuvers  
(CI: 95% confidence interval, resulting from mass computation in McHenry and Lauder 2006)

#	Turning angle [°]	Duration [s]	COM displacement [mm]	Re	Net work [ $\mu$ J]	Negative work [%]	TC [ $\frac{mJ}{kgs}$ ] (positive work)	TC [ $\frac{mJ}{kgs}$ ] (total work)	TC CI [ $\frac{mJ}{kgs}$ ] (total work)
1	29.6	0.330	6.62	483	0.069	15.36	5.44	6.42	[4.65, 8.62]
2	15.7	0.225	5.24	560	0.083	14.09	9.46	11.01	[7.96, 14.78]
3	15.6	0.140	4.32	668	0.133	11.95	34.14	38.77	[28.41, 51.44]
4	25.6	0.175	5.11	632	0.109	13.65	23.04	26.68	[19.55, 35.40]
5	24.8	0.200	5.12	554	0.084	17.32	16.51	19.96	[14.63, 26.49]
6	27.9	0.250	5.86	508	0.082	15.43	12.37	14.63	[10.72, 19.41]
7	71.3	0.191	8.20	930	0.278	11.49	51.87	58.60	[42.95, 77.75]
8	19.0	0.125	5.42	939	0.170	12.26	49.11	55.98	[41.03, 74.27]
9	30.2	0.180	6.47	779	0.139	11.86	27.70	31.43	[23.03, 41.70]
10	27.6	0.160	5.50	744	0.093	14.07	21.55	25.07	[18.38, 33.27]
11	32.8	0.175	5.97	739	0.152	12.14	31.33	35.66	[26.13, 47.31]
12	15.7	0.170	5.11	651	0.100	12.89	21.41	24.58	[18.01, 32.61]
13	15.1	0.171	4.69	594	0.082	16.33	18.42	22.02	[16.14, 29.21]
14	18.7	0.255	4.55	440	0.118	14.52	11.46	13.40	[9.68, 18.00]
15	3.0	0.230	2.42	259	0.034	20.13	4.09	5.13	[3.70, 6.88]
16	19.2	0.126	6.21	953	0.139	10.75	53.40	59.83	[44.35, 78.62]
17	74.5	0.150	7.12	918	0.196	11.09	63.44	71.35	[52.89, 93.75]
18	18.7	0.135	4.68	671	0.072	11.22	25.82	29.08	[21.56, 38.21]