Table 1 Periods of oscillation systems. N.O.'s, M.S.S. and S.M.E.S. stand for neural oscillator, musculoskeletal system, and spring-mass and environment system, respectively.

oscillation system	period [sec]
N.O.'s	0.30 (from calculation)
N.O.'s-M.S.S.	0.33 (from experiment with the robot hanged in the air)
spring-mass	0.34 (from calculation)
N.O.'s-M.S.S. and S.M.E.S.	0.41 (from experiment of jumping in a pronk gait)

Table 2 Parameters of N.O. in eq.(1) for each gait. w_{fe} means connecting weight between flexor and extensor neurons. w_{no} means connecting weight between N.O.'s of hip joints of four legs. p_f and p_e mean gain for calculating joint torque from y_i at flexor neuron and at extensor neuron, respectively. In the experiment of gait transition from pronk to bound, parameters as a bound gait are used except for initial values of N.O.'s. '*' means that connecting weight between left leg and right leg is large (0.35) and connecting weight between foreleg and hindleg is small (-0.01) in order to induce gait transition from pronk to bound.

parameters	gaits		
	trot	pronk	bound
τ	0.06	0.04	0.04
τ'	0.6	0.45	0.45
β	2.5	1.3	1.3
w_{fe}	-2	-2	-2
w_{no}	± 1	0.3	0.35 $\parallel$ -0.01*
u_0	2	3	3
$Feed_i$ (1/rad)	8	2	1.5
p_f (Nm)	0.08	1.5	1.5
p_e (Nm)	0.14	3	3

Table 3 Parameters of reflex mechanisms in Figure 5.

parameters	stretch reflex	flexor reflex
Torque (Nm)	0.13	0.13
Active Time (sec)	0.12	0.12
Delay Time (sec)	0.2	0.2

Table 4 Physical parameters of a quadruped robot. Length means the distance between joints. Inertia moment of a limb is around a joint and that of a body is around the center of mass.

link	parameters	value
upper limb	mass (kg)	0.6
	inertia moment (kgm^2)	8.6×10^{-3}
	length (m)	0.15
lower limb	mass (kg)	0.2
	inertia moment (kgm^2)	3.8×10^{-3}
	length (m)	0.15
body	mass (kg)	1.6
	inertia moment (kgm^2)	2.3×10^{-2}
	length (m)	0.30