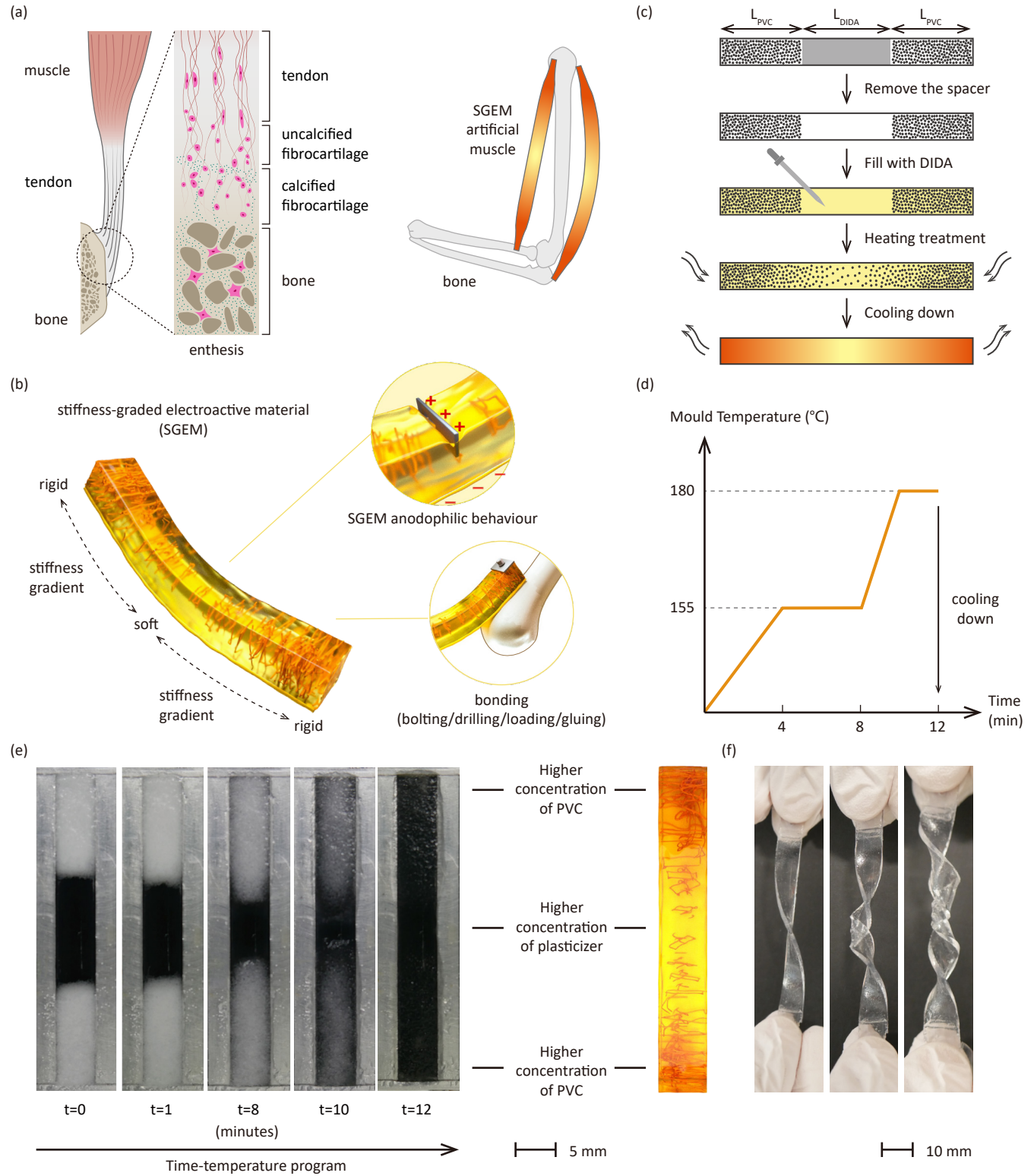
(a)
muscle
tendon
bone
tendon
uncalcified fibrocartilage
calcified fibrocartilage
bone
enthesis
SGEM artificial muscle
bone
(b)
stiffness-graded electroactive material (SGEM)
rigid
stiffness gradient
soft
stiffness gradient
rigid
SGEM anodophilic behaviour
bonding (bolting/drilling/loading/gluing)
(c)
$L_{PVC}$
$L_{DIDA}$
$L_{PVC}$
Remove the spacer
Fill with DIDA
Heating treatment
Cooling down
(d)
Mould Temperature (°C)
180
155
cooling down
Time (min)
4
8
12
(e)
Higher concentration of PVC
Higher concentration of plasticizer
Higher concentration of PVC
t=0
t=1
t=8
t=10
t=12
(minutes)
Time-temperature program
5 mm
(f)
10 mm