

# Simultaneous Acquisition of Microscale Reflectance and Normals

ACM SIGGRAPH Asia 2016  
Supplemental Material #2

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# Acquisition System

# Acquisition System



microscale stage

light-dome structure and sample holder

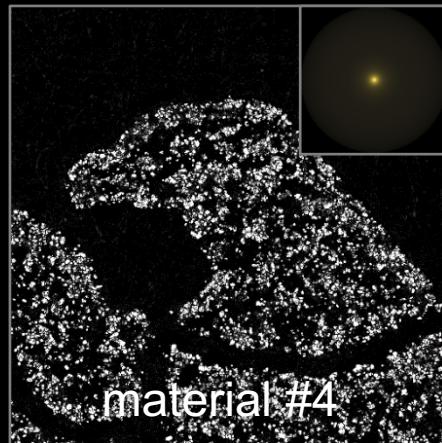
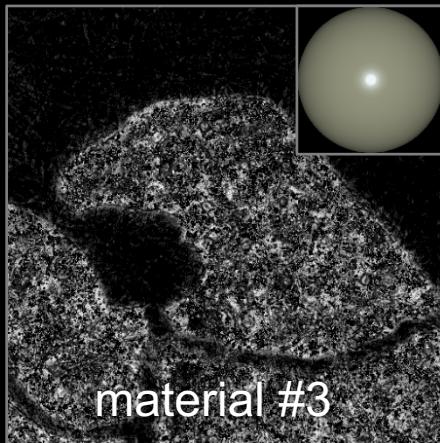
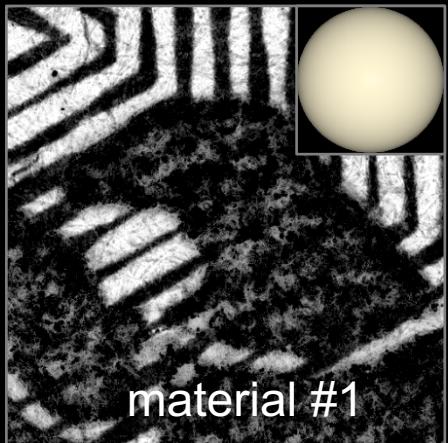
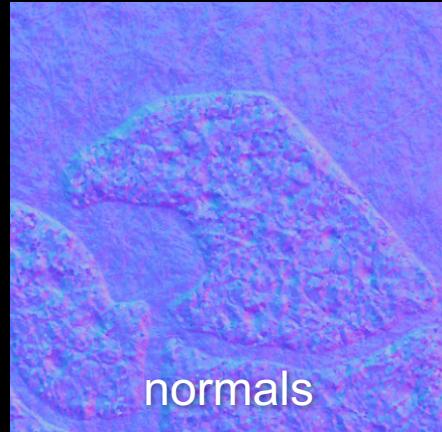
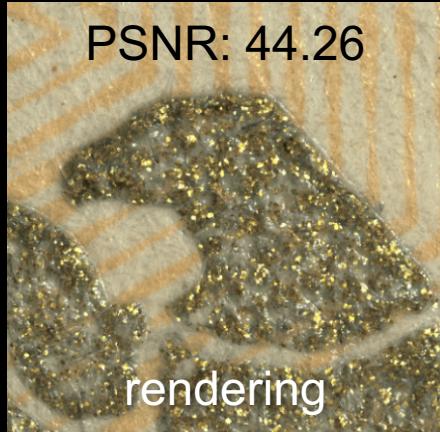
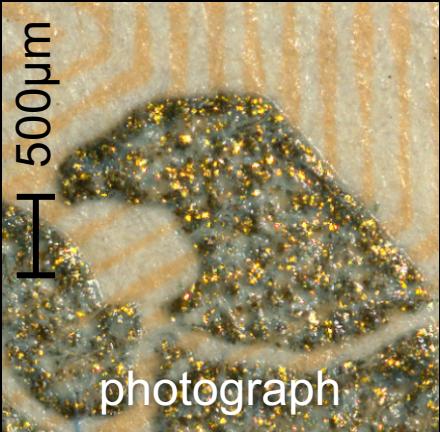
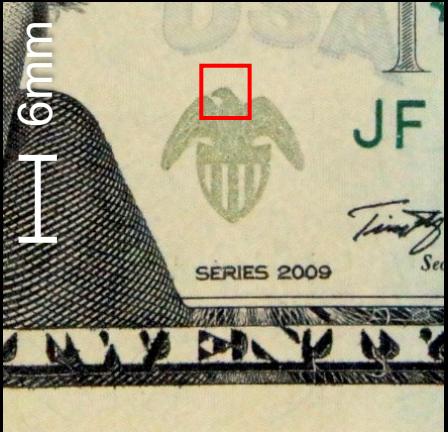
light dome (wired)

macro lens and light dome (wired)

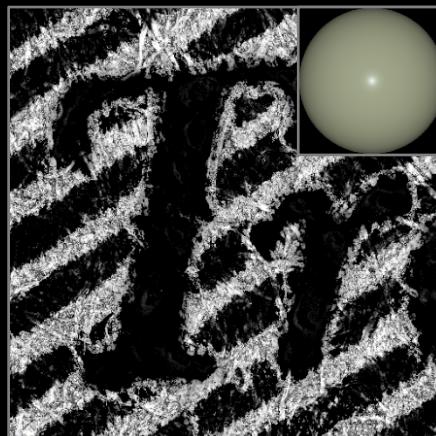
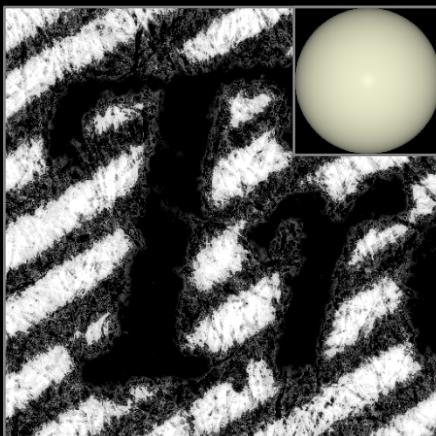
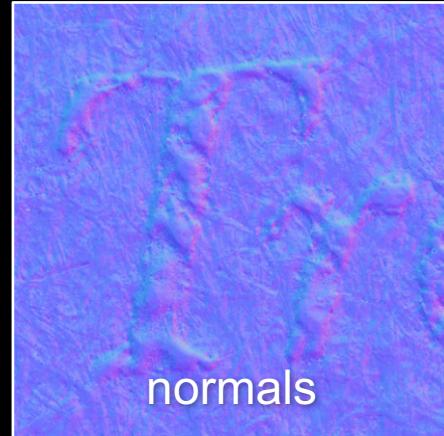
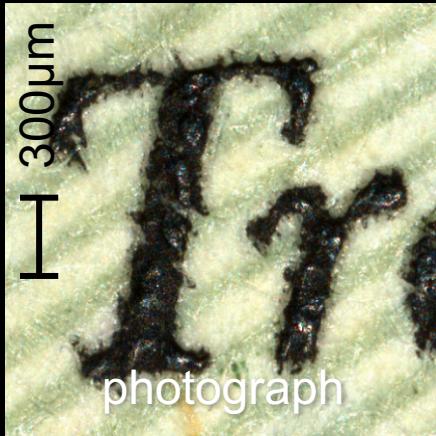
supporting structure (with vibration control)

# Microscale Reflectance and Normal Datasets

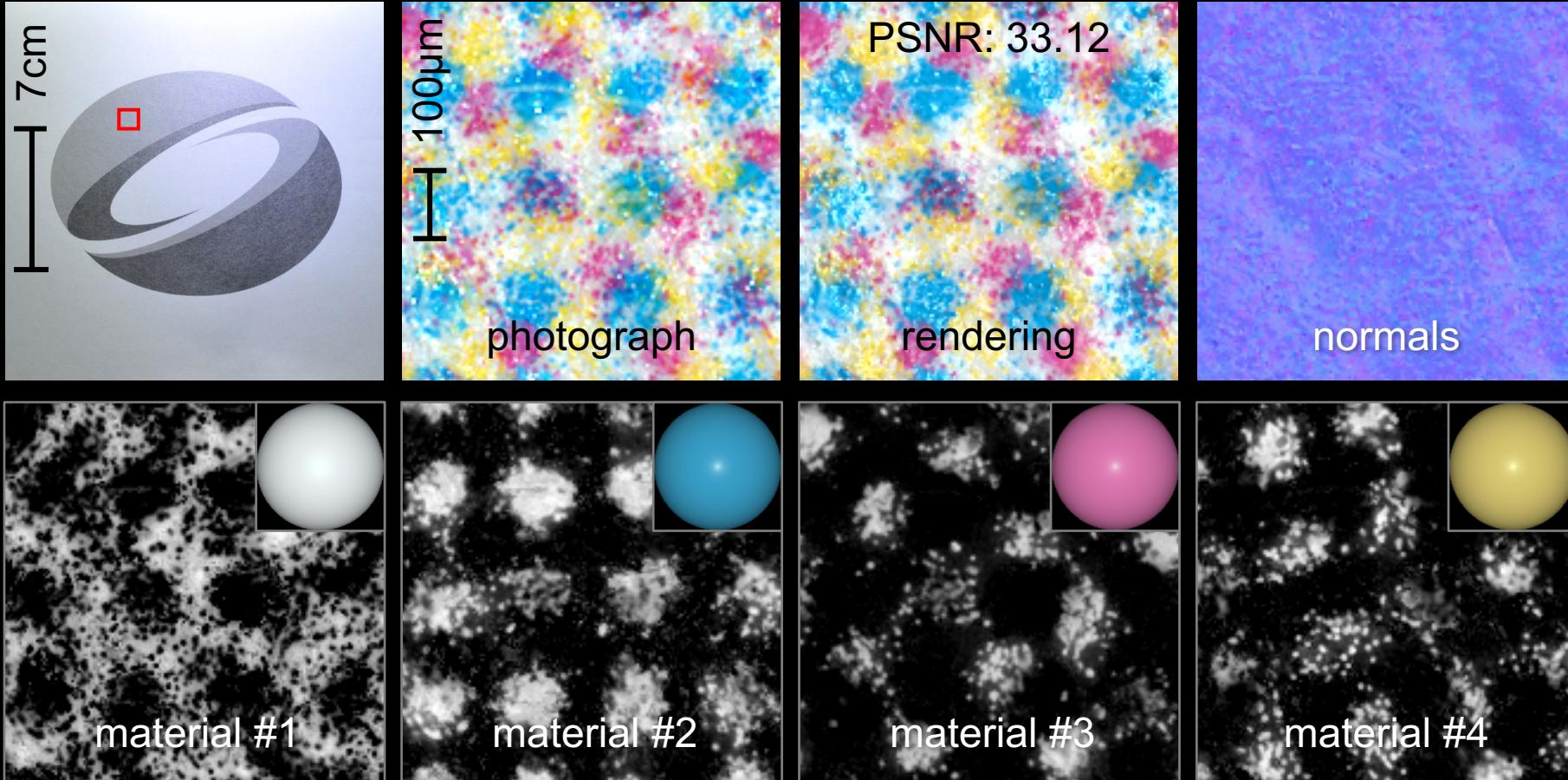
# Dataset #1: Dollar bill (eagle)



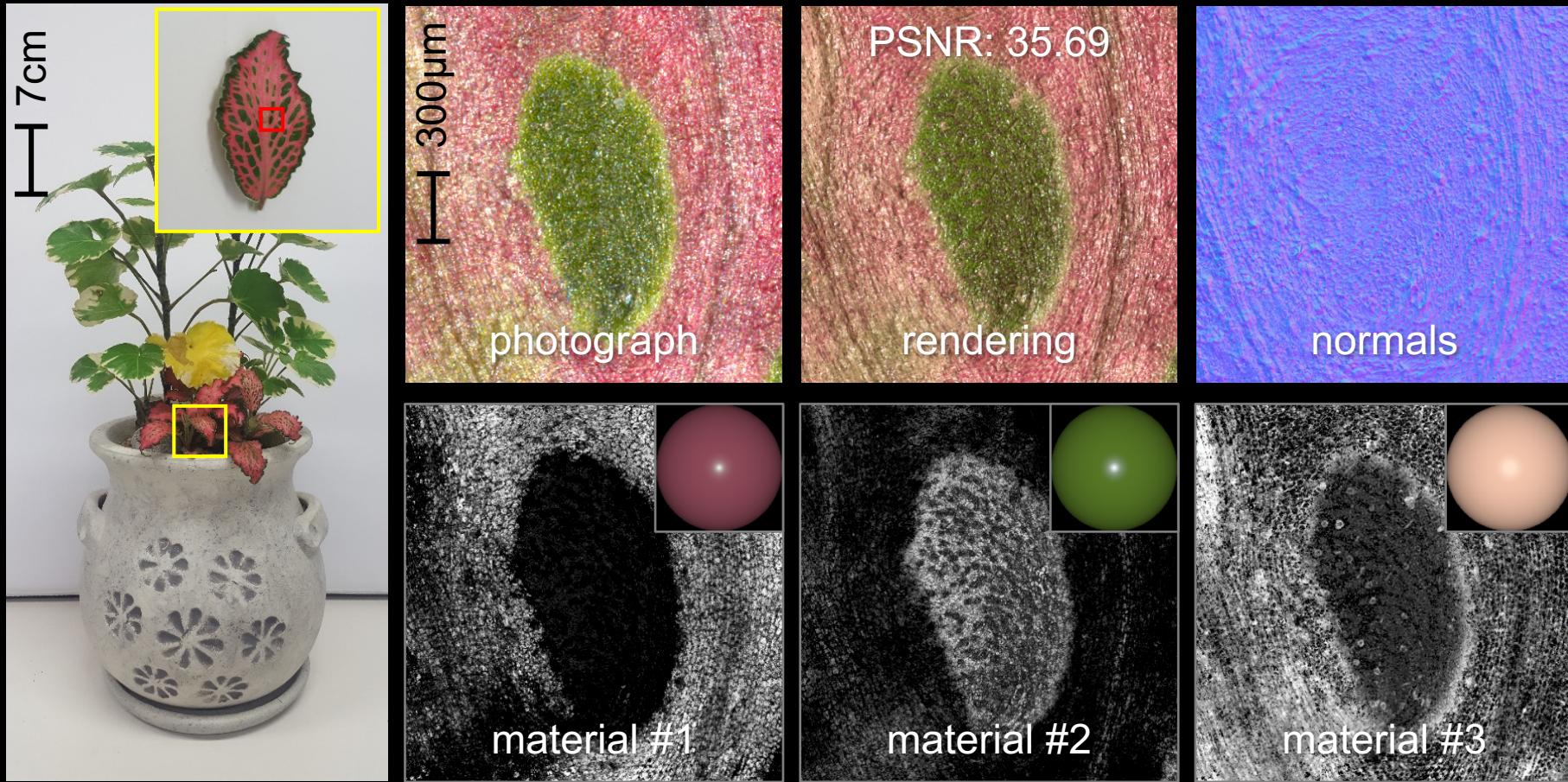
## Dataset #2: Dollar bill (Tr)



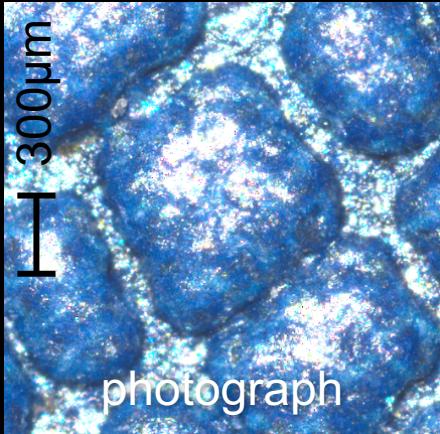
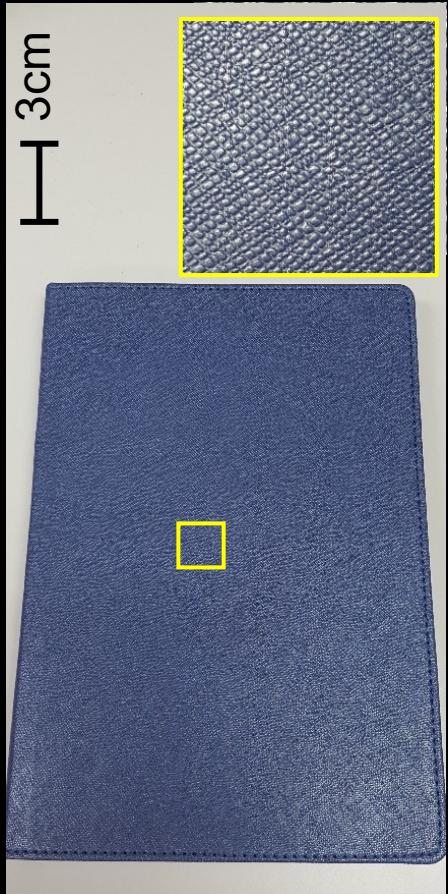
# Dataset #3: Halftone printout (light grey)



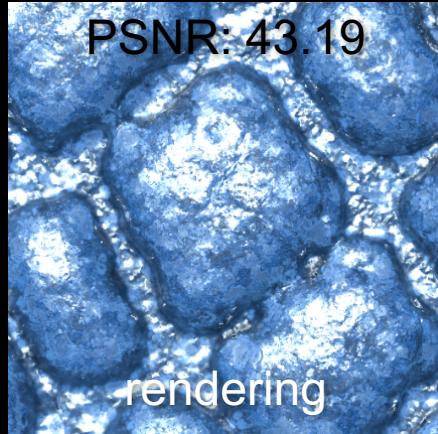
# Dataset #4: Leaf



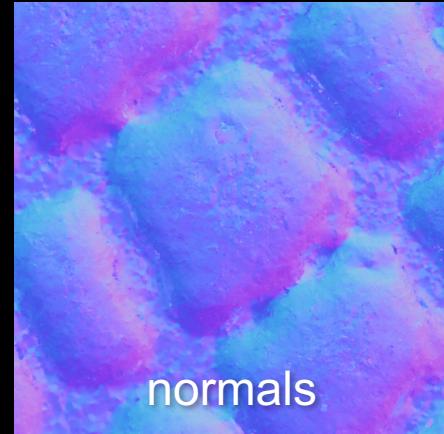
# Dataset #5: Blue notebook



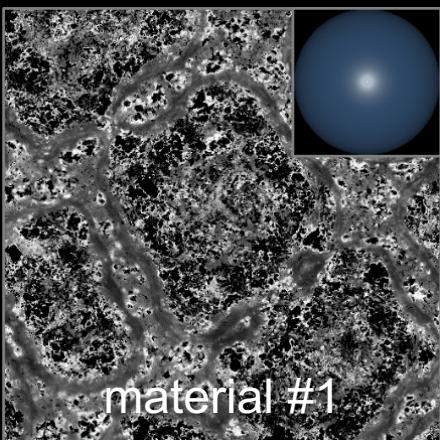
photograph



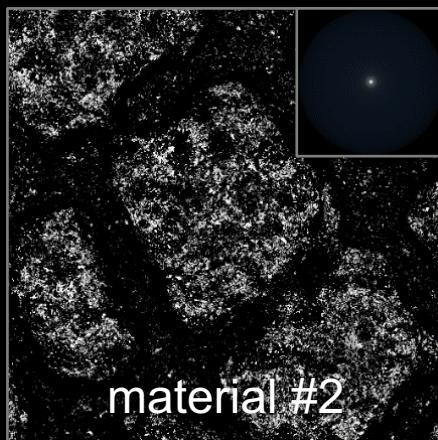
rendering



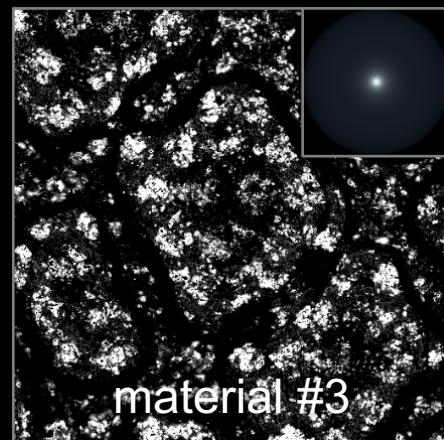
normals



material #1

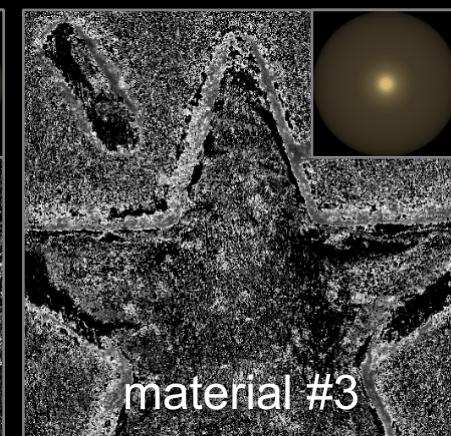
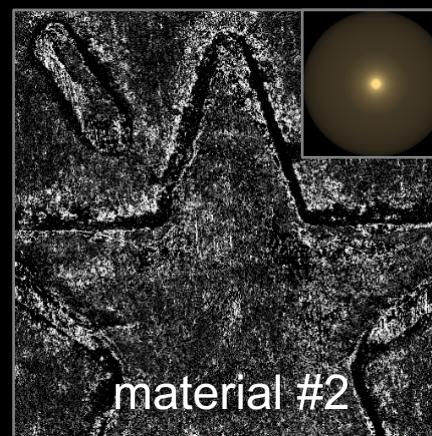
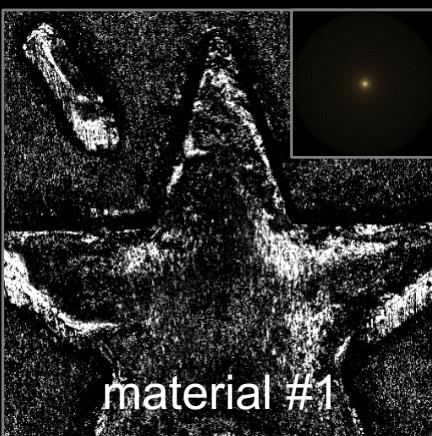
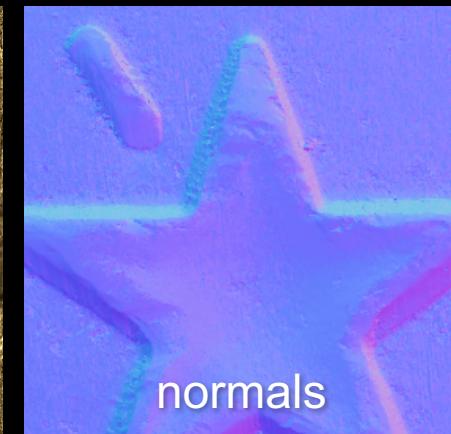
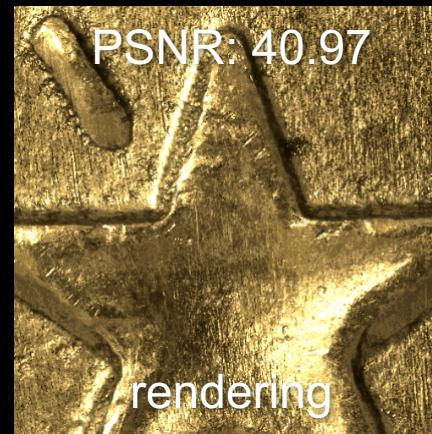
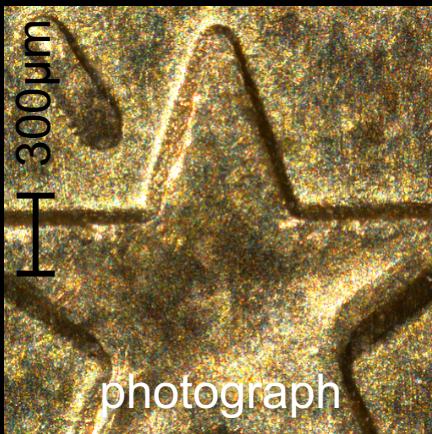


material #2

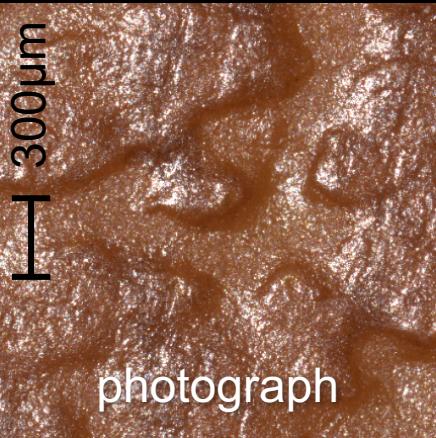
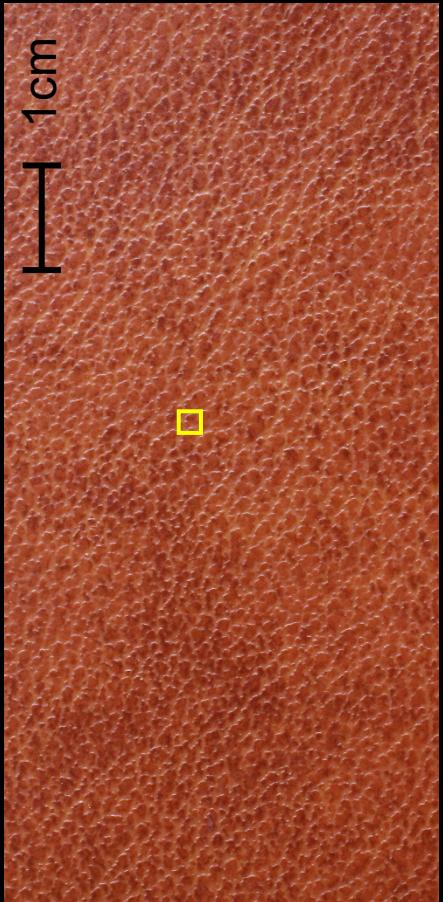


material #3

# Dataset #6: Copper coin (star)



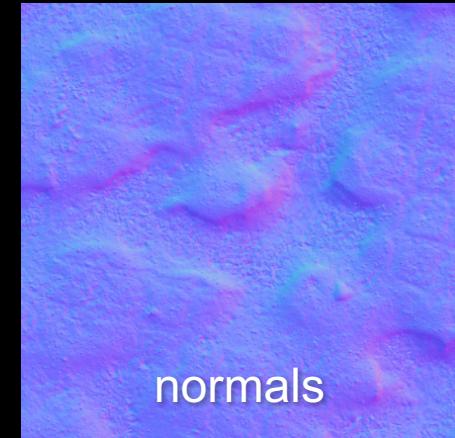
# Dataset #7: Leather



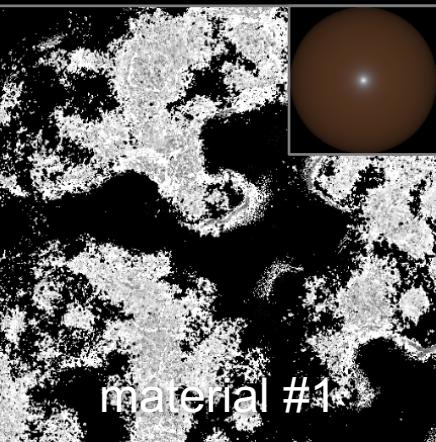
photograph



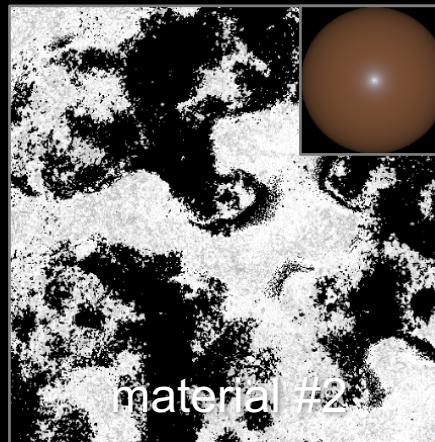
rendering



normals

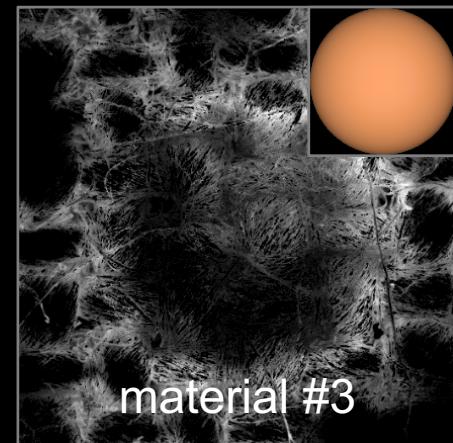
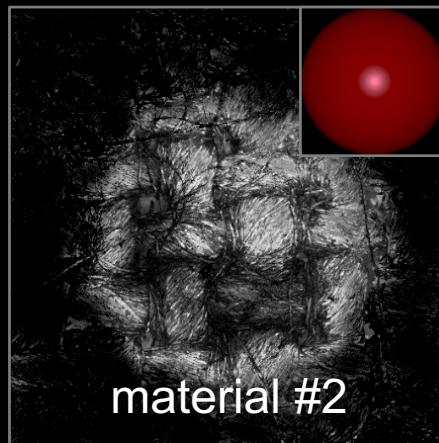
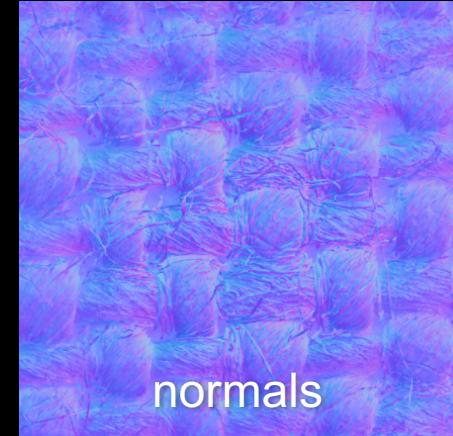
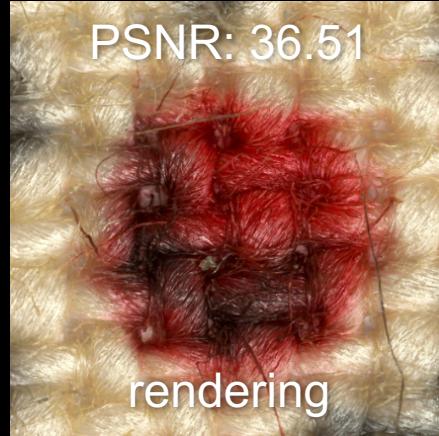
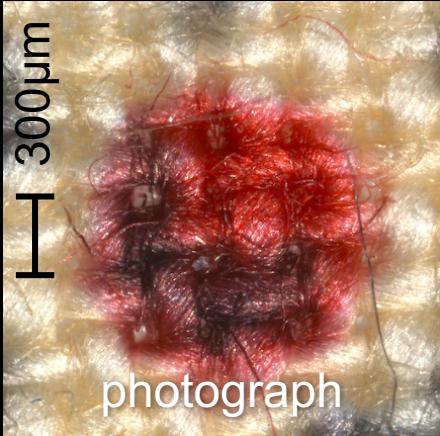
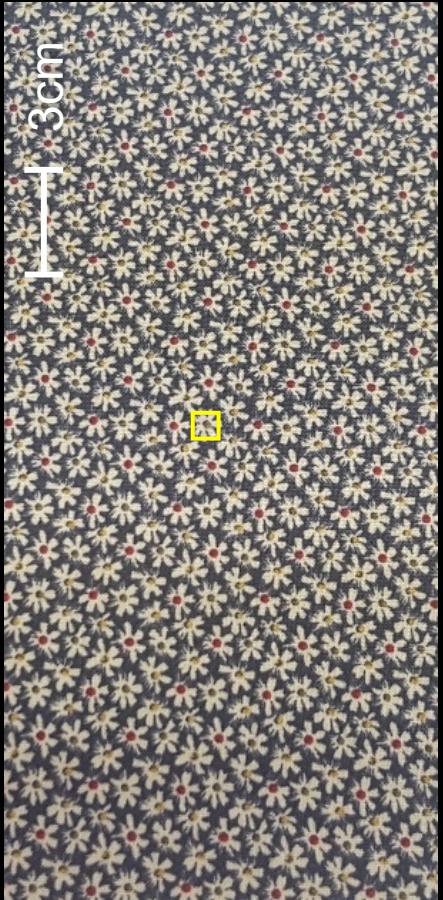


material #1



material #2

# Dataset #8: Textile

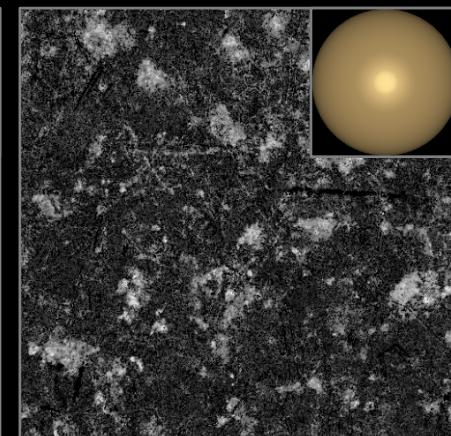
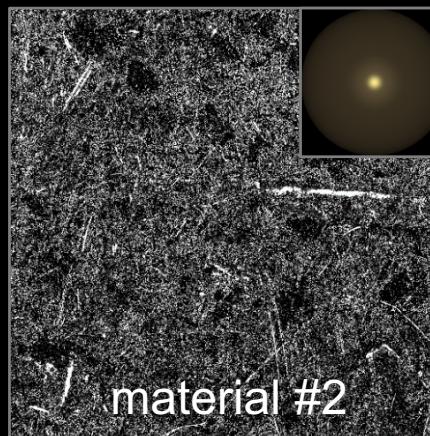
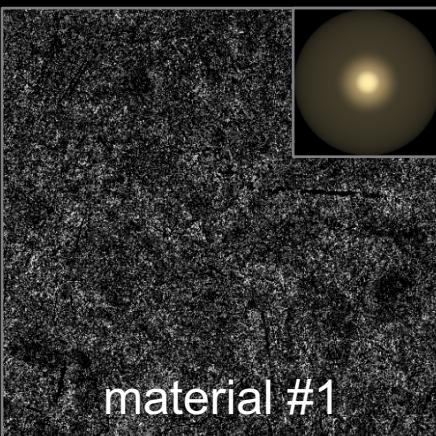
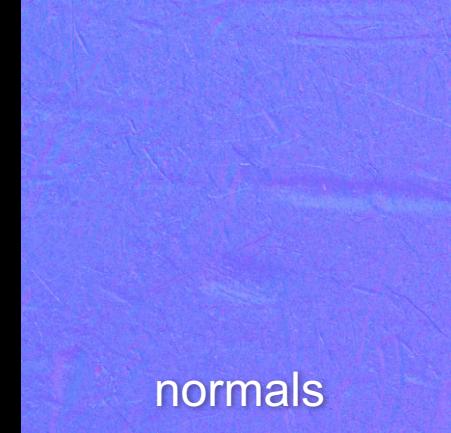
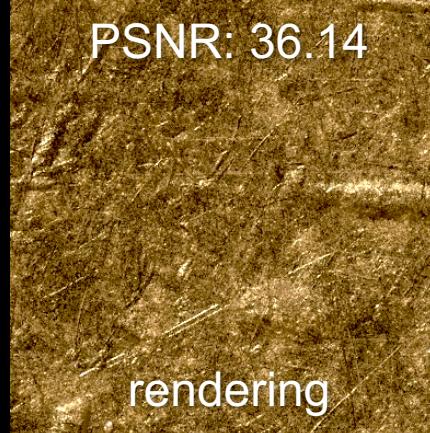
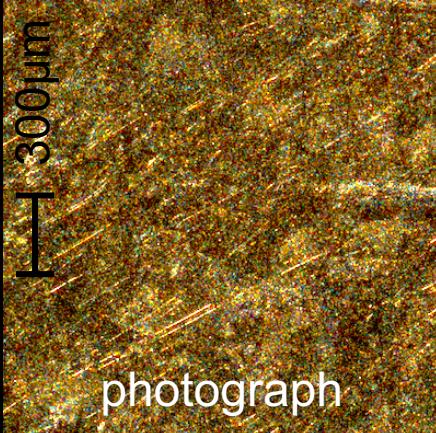


material #1

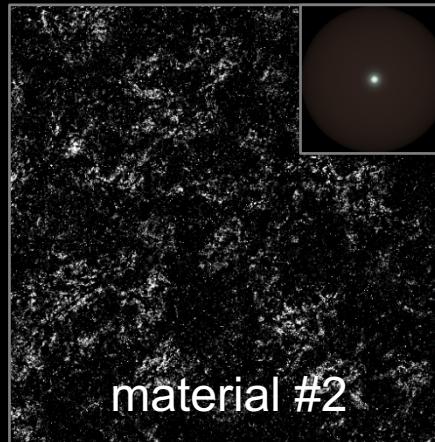
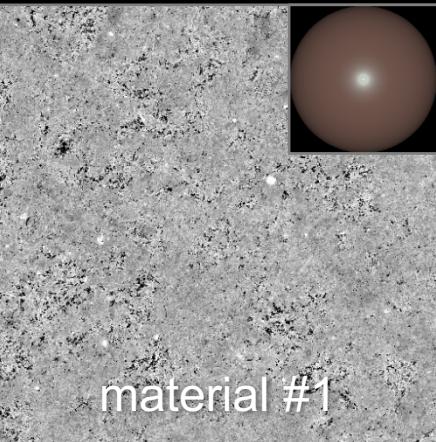
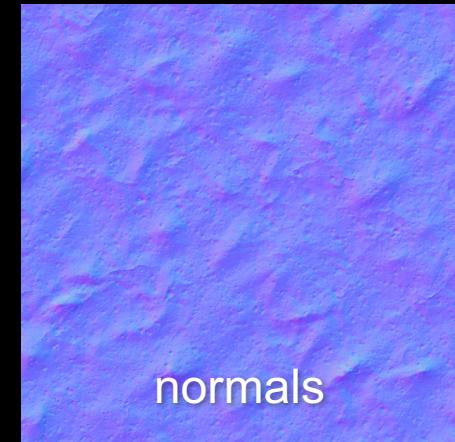
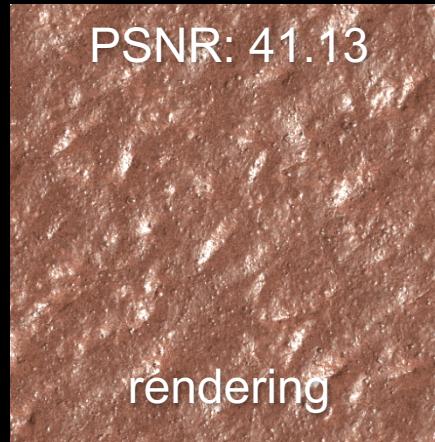
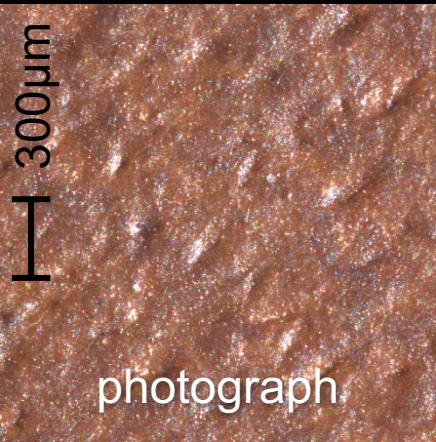
material #2

material #3

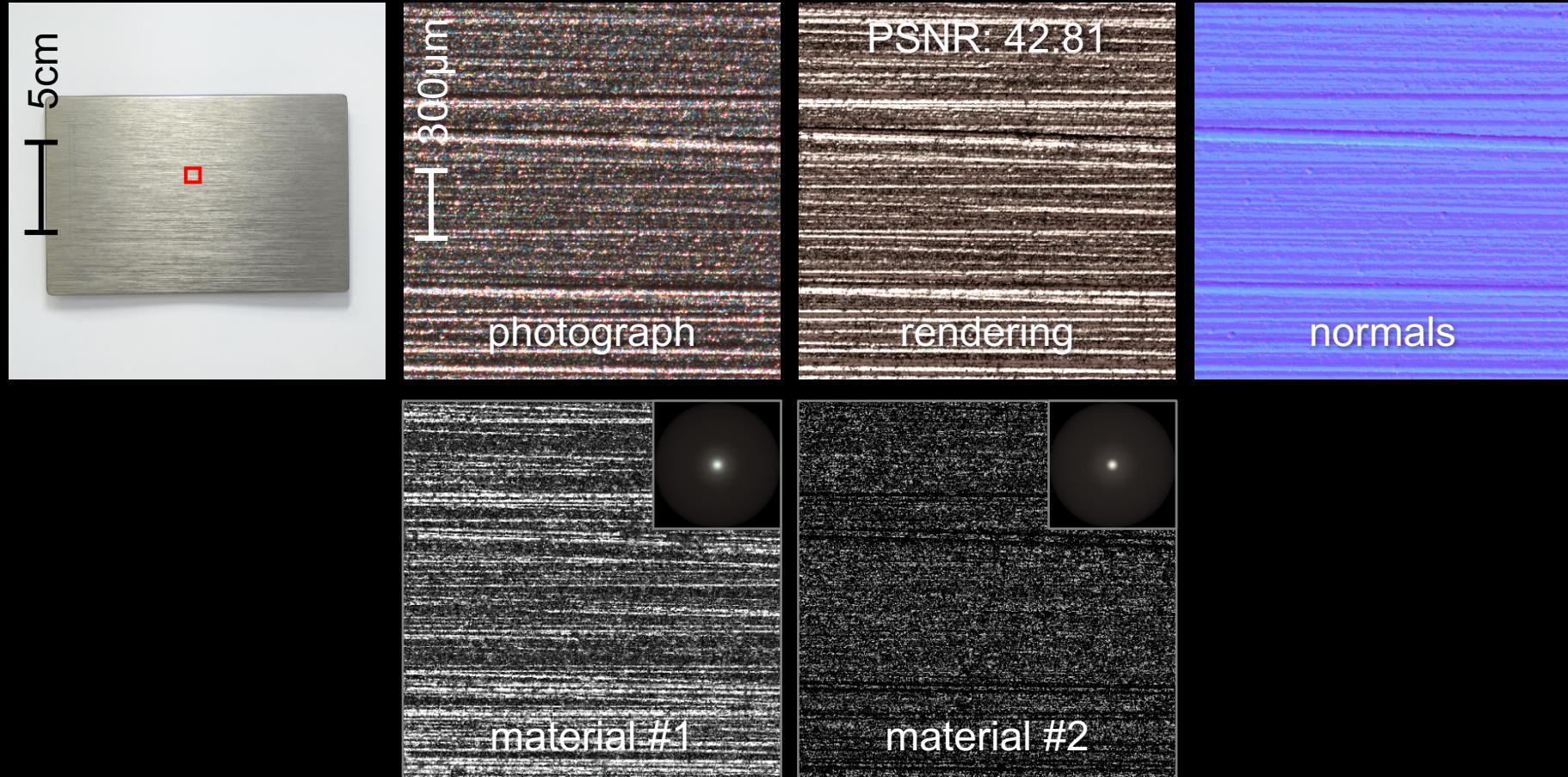
# Dataset #9: Copper coin



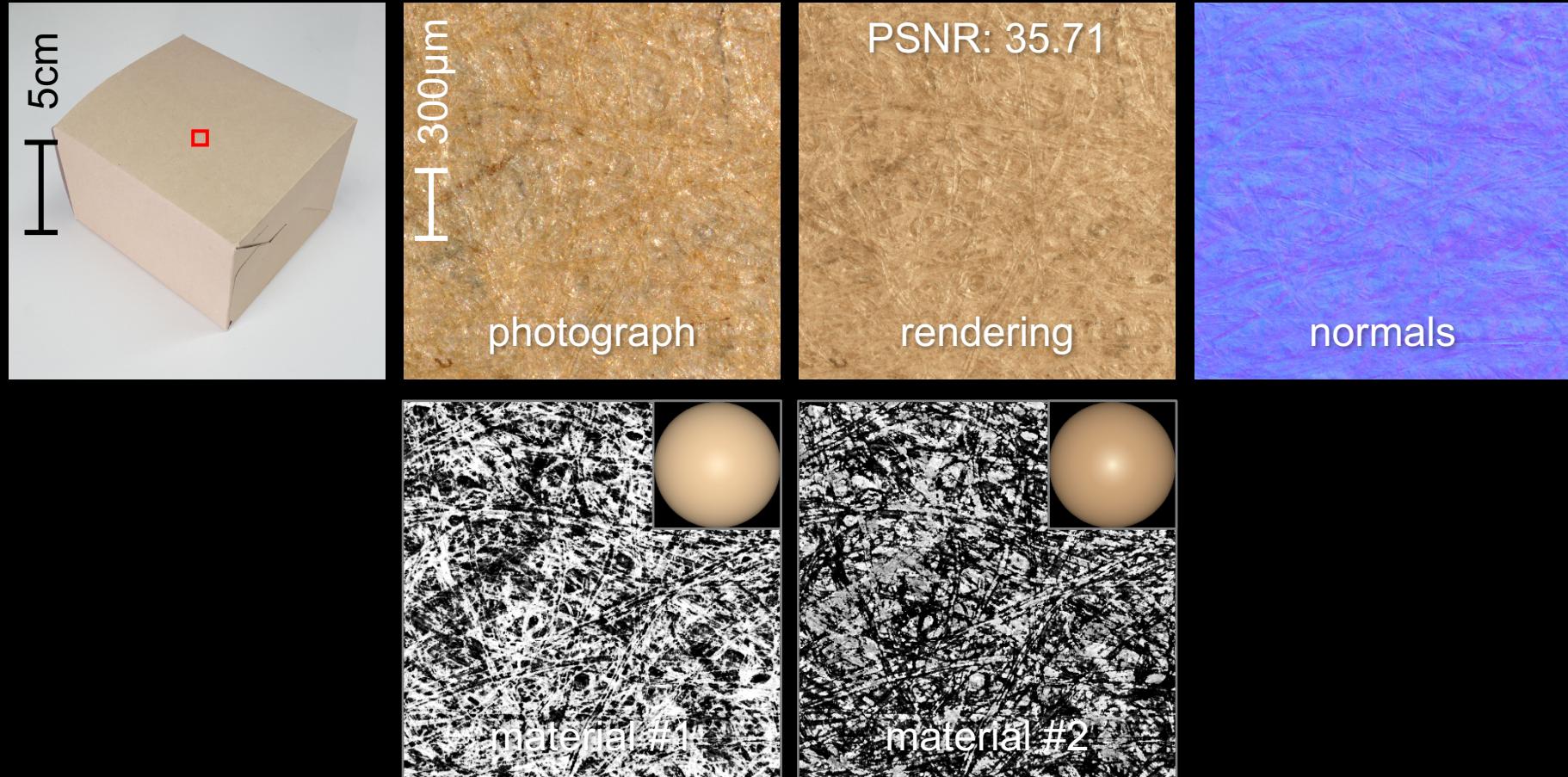
# Dataset #10: Leather shoe



# Dataset #11: Brushed aluminum case

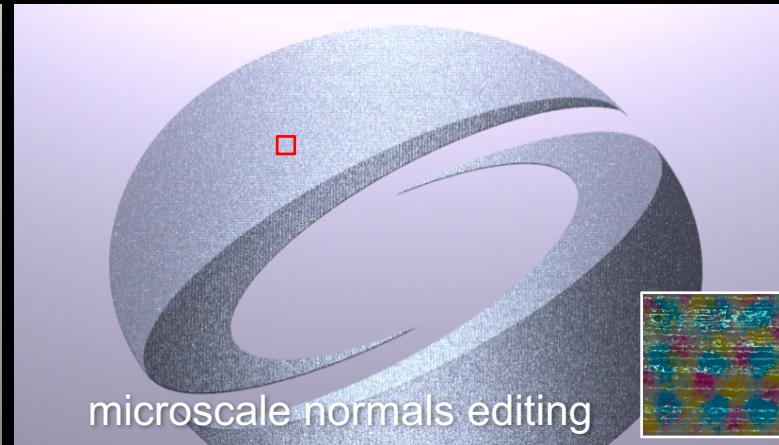
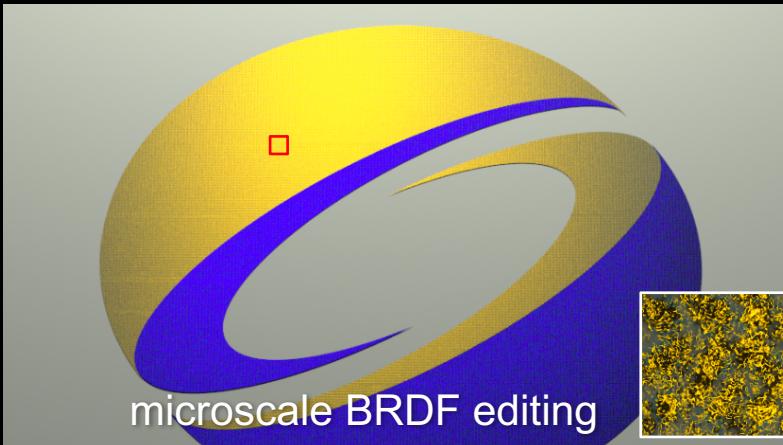
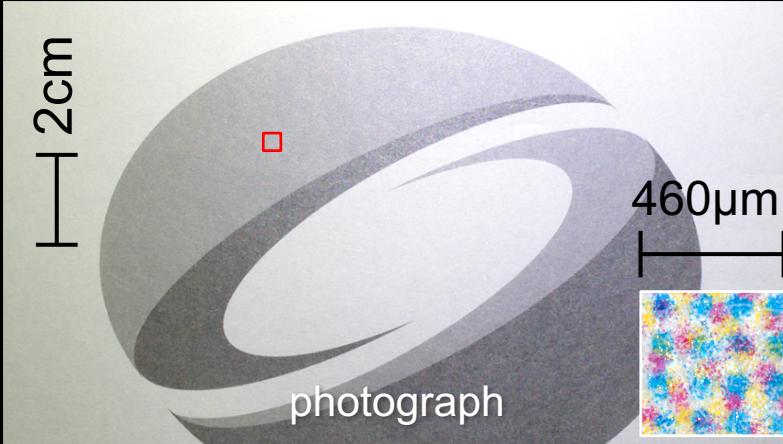


# Dataset #12: Paper box



# Microscale Appearance Editing

# Dataset #3: Halftone printout



# Dataset #6: Copper coin

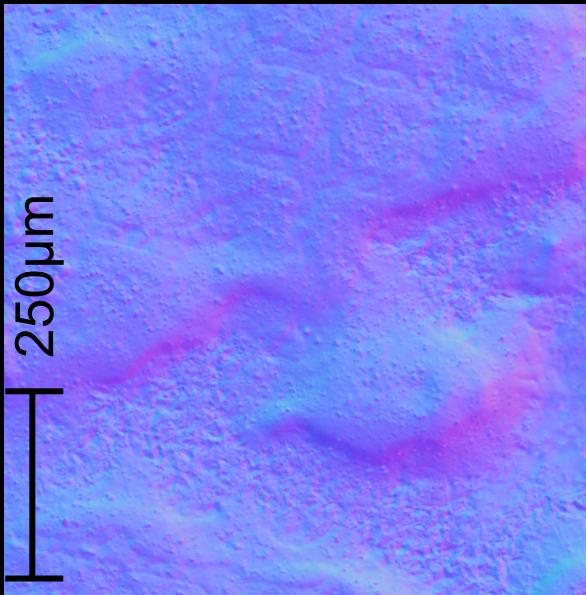


# Comparison

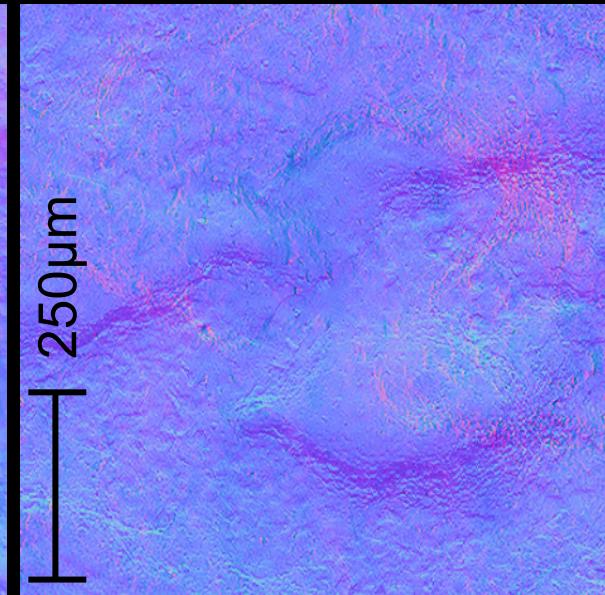
# Dataset #7: Leather



photograph

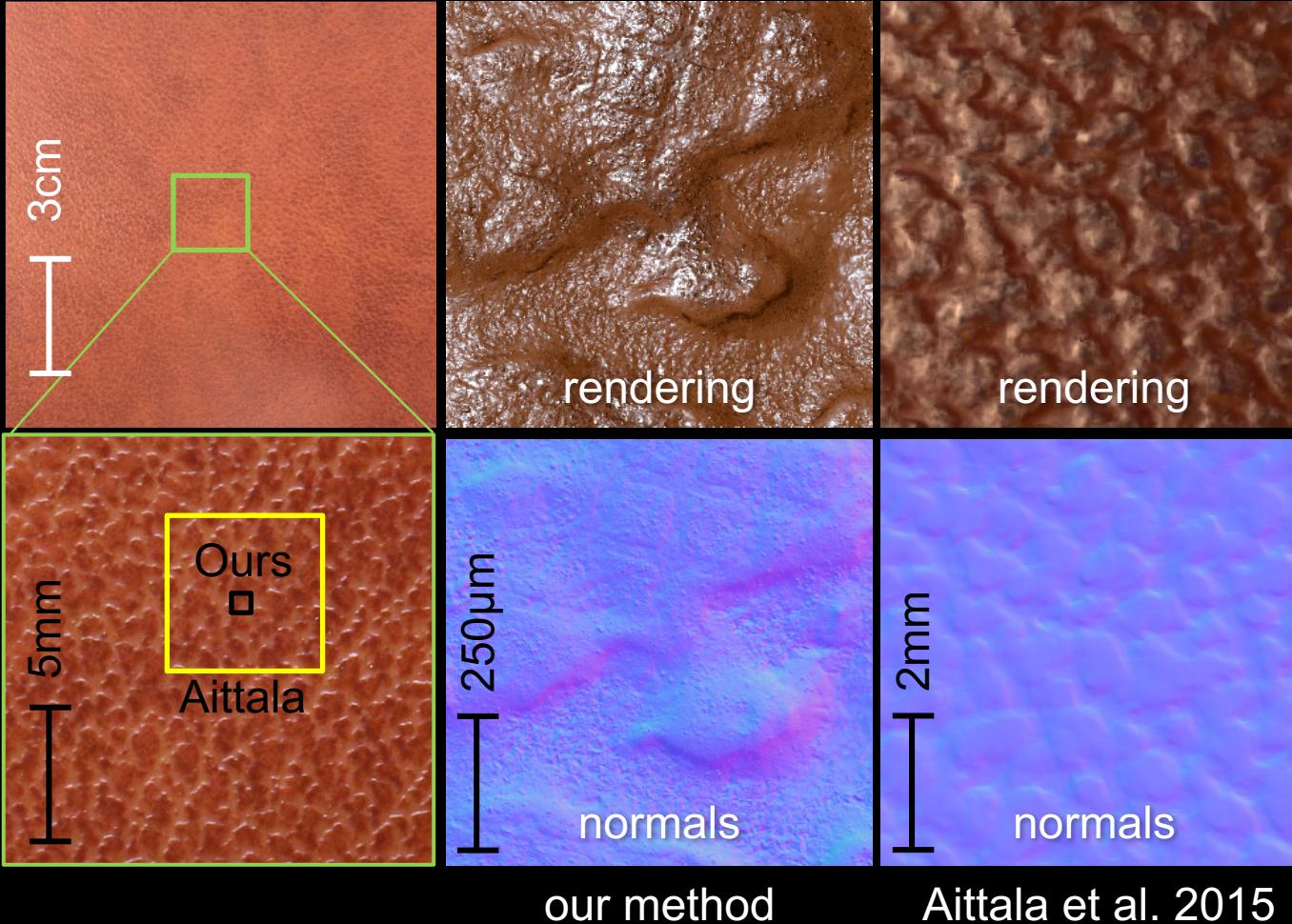


our method



micro-surface profiler  
(reference)

# Dataset #7: Leather

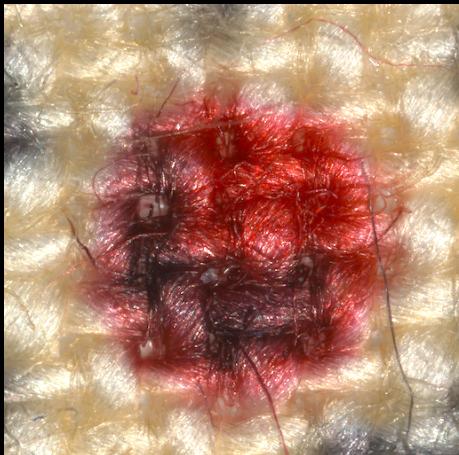


# Textile

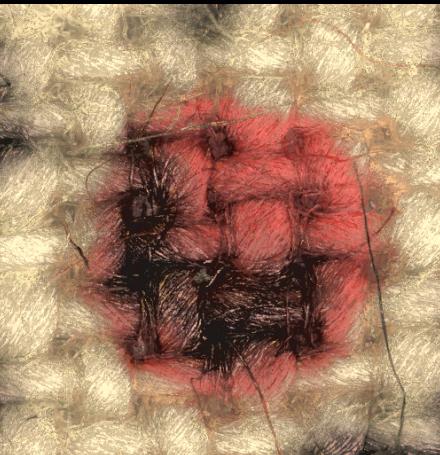
PSNR 29.49

PSNR 29.33

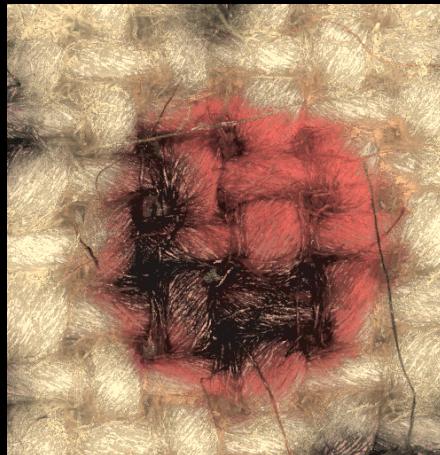
PSNR 36.51



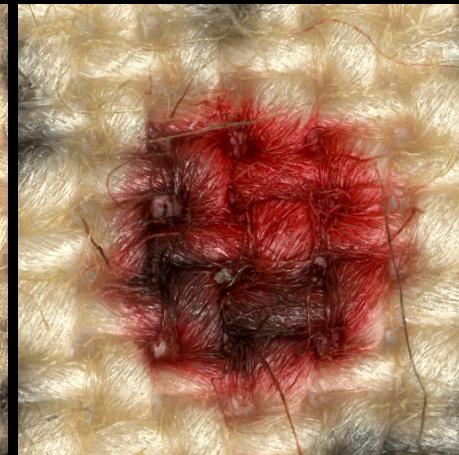
Photograph



Cook-Torrance



Oren-Nayar



Our method

# Halftone printout

