

## Fabrication of pre-microneedle using high aspect ratio SU-8 photolithography

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Recently, there have been many interests on microneedle, which can improve drug delivery through dermal skin. The needle in a form of the patch is believed to improve daily life. Microneedle patch or micro units needle is developed in this study. The pre-microneedle, which is a master for microneedle is fabricated by SU-8 photolithography. A mold is replicated by using PDMS polymer. A method of the pre-manufacturing process is required that size should be tiny smaller than the skin feels pressure point. We tried to pattern needle by piling up a grade with SU-8 2075 for making micro needle as small as we can. SU-8 was spin-coated after spin-coating HMDS (Hexamethyl disilazane) on a Si(100). Then, it was exposed through film mask by UV Aligner and it was etched by SU-8 developer to make a embossing pattern. With same method it build up a unit smaller than the size of the engraving pattern that is previously built