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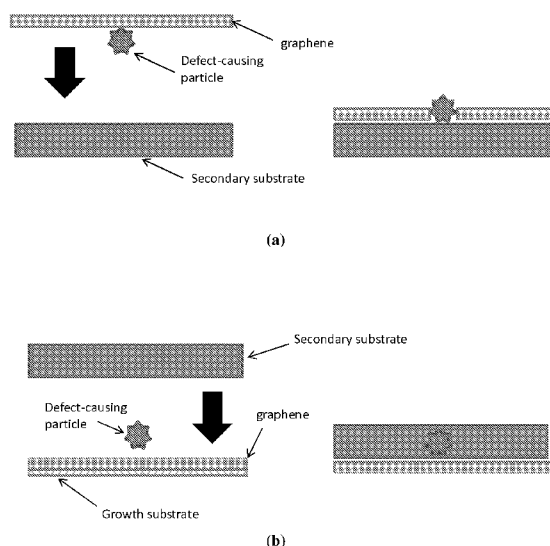
(54) Title: PROCESSES FOR FORMING COMPOSITE STRUCTURES WITH A TWO-DIMENSIONAL MATERIAL USING A
POROUS, NON-SACRIFICIAL SUPPORTING LAYER

FIGURE 7

(57) Abstract: It can be difficult to remove atomically thin
films, such as graphene, graphene-based material and other
two-dimensional materials, from a growth substrate and then
to transfer the thin films to a secondary substrate. Tearing and
conformality issues can arise during the removal and transfer
processes. Processes for forming a composite structure by man-
ipulating a two-dimensional material, such as graphene or
graphene-base material, can include: providing a two-dimen-
sional material adhered to a growth substrate; depositing a
supporting layer on the two-dimensional material while the
two-dimensional material is adhered to the growth substrate;
and releasing the two-dimensional material from the growth
substrate, the two-dimensional material remaining in contact
with the supporting layer following release of the two-dimen-
sional material from the growth substrate.

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