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(54) **ORGANIC LIGHT EMITTING DIODE DISPLAY AND METHOD FOR MANUFACTURING ORGANIC LIGHT EMITTING DIODE DISPLAY**

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(57) **ABSTRACT**

An organic light emitting device includes a substrate. An organic light emitting diode is disposed on the substrate. A thin film encapsulation layer is disposed over the organic light emitting diode. The thin film encapsulation layer includes at least one organic layer. An organic passivation layer is disposed directly on the thin film encapsulation layer. The organic passivation layer has a smaller Young's modulus than the organic layer of the thin film encapsulation layer.

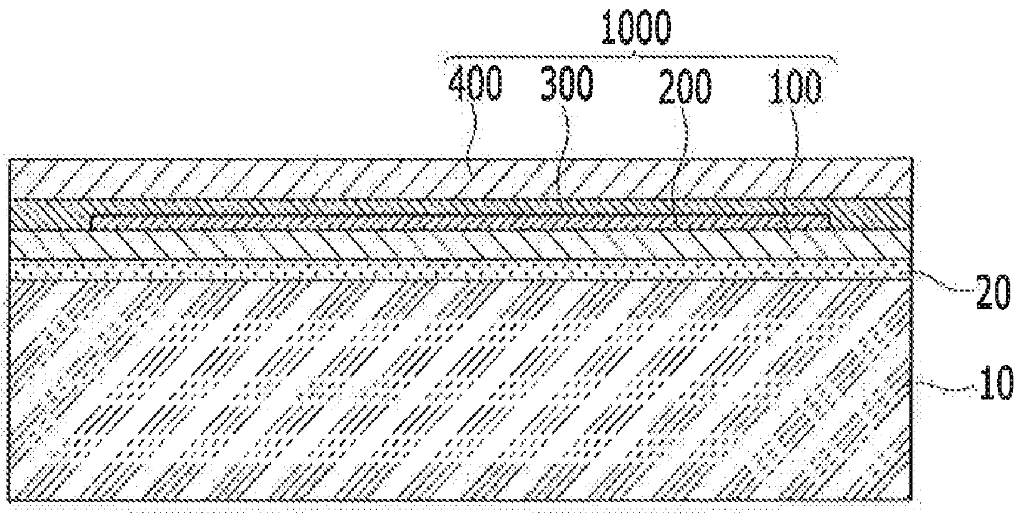


FIG. 1

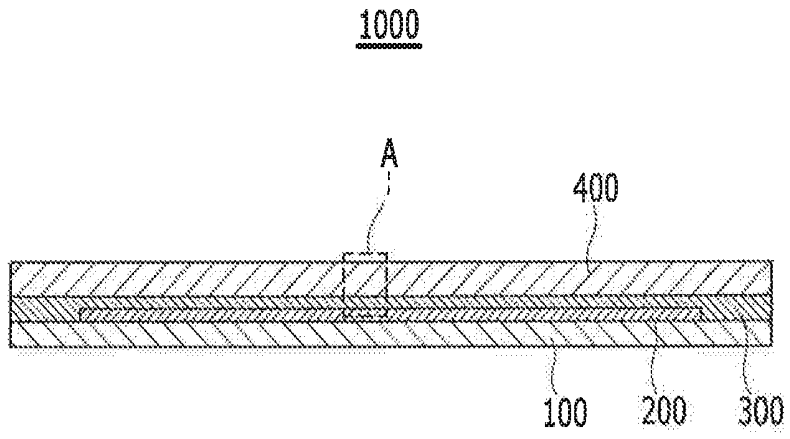


FIG. 2

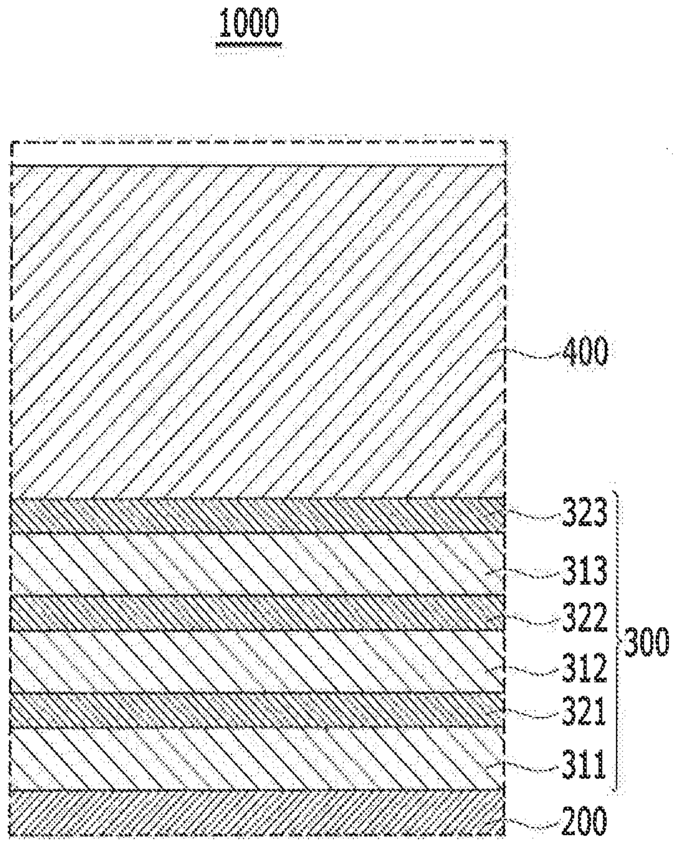


FIG. 3

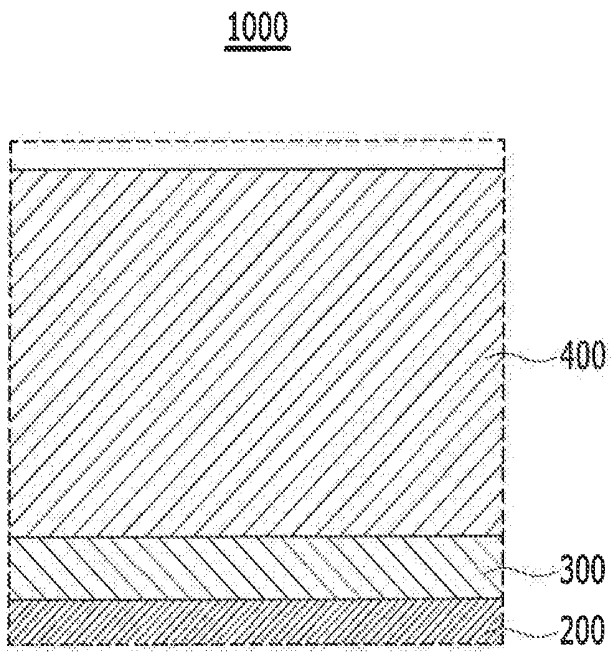


FIG. 4

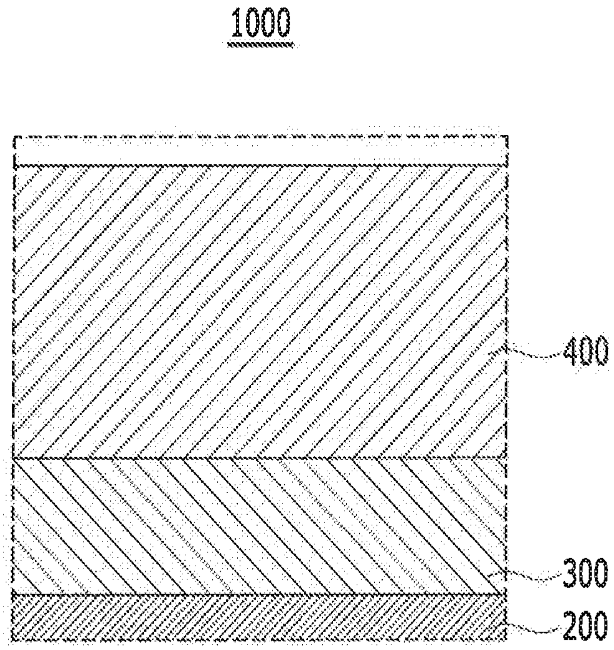


FIG. 5

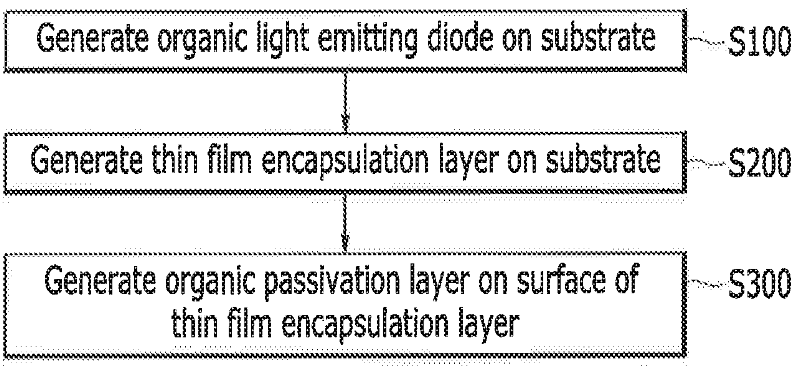

Generate organic light emitting diode on substrate
S100
Generate thin film encapsulation layer on substrate
S200
Generate organic passivation layer on surface of thin film encapsulation layer
S300

FIG. 6

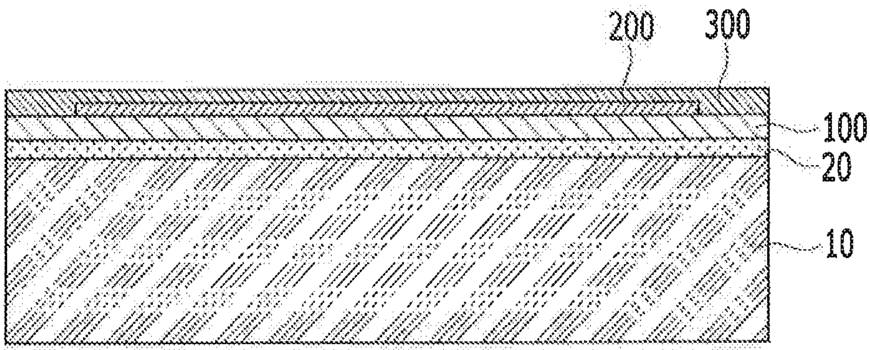
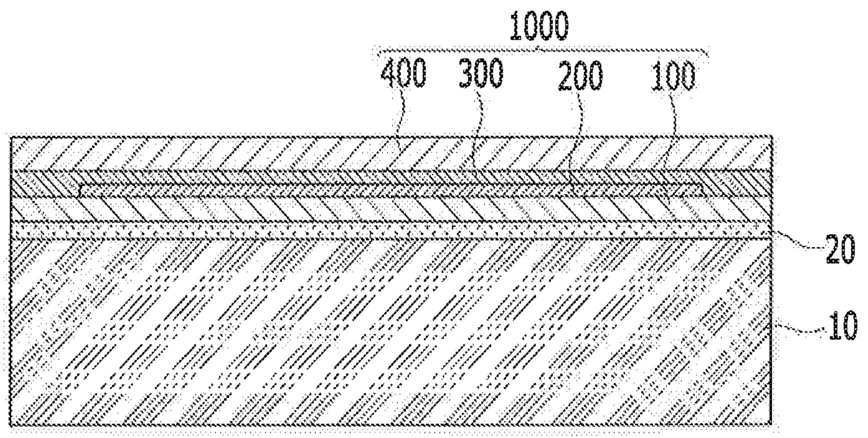


FIG. 7



ORGANIC LIGHT EMITTING DIODE DISPLAY AND METHOD FOR MANUFACTURING ORGANIC LIGHT EMITTING DIODE DISPLAY

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to and the benefit of Korean Patent Application No. 10-2016-0012390, filed in the Korean Intellectual Property Office on Feb. 1, 2016, the entire contents of which are incorporated by reference herein.

TECHNICAL FIELD

[0002] The present disclosure relates to an organic light emitting device, and more specifically, to an organic light emitting diode display device and a method for manufacturing the organic light emitting diode display device.

DISCUSSION OF THE RELATED ART

[0003] In general, an organic light emitting diode (OLED) display device includes a substrate, an OLED provided on the substrate, and a thin film encapsulation layer provided on the substrate with the OLED disposed therein.

[0004] The conventional OLED display device includes a passivation film attached to the thin film encapsulation layer to protect the thin film encapsulation layer. The passivation film is attached to the thin film encapsulation layer by an adhesive layer.

SUMMARY

[0005] An organic light emitting device includes a substrate. An organic light emitting diode is disposed on the substrate. A thin film encapsulation layer is disposed over the organic light emitting diode. The thin film encapsulation layer includes at least one organic layer. An organic passivation layer is disposed directly on the thin film encapsulation layer. The organic passivation layer has a smaller Young's modulus than the organic layer of the thin film encapsulation layer.

[0006] A method for manufacturing an organic light emitting device includes disposing an organic light emitting diode on a substrate. A thin film encapsulation layer is disposed over the organic light emitting diode and the substrate. An organic passivation layer, having a smaller Young's modulus than that of the thin film encapsulation layer, is deposited on a surface of the thin film encapsulation layer.

[0007] An organic light emitting device includes a flexible substrate. A thin film encapsulation layer is disposed on the flexible substrate. An organic light emitting diode is encapsulated between the thin film encapsulation layer and the flexible substrate. An organic passivation layer is disposed over the thin film encapsulation layer. The thin film encapsulation layer is more elastic than the organic passivation layer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] A more complete appreciation of the present disclosure and many of the attendant aspects thereof will be readily obtained as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein:

[0009] FIG. **1** is a cross-sectional view illustrating an organic light emitting device according to an exemplary embodiment of the present disclosure;

[0010] FIG. **2** is a cross-sectional view illustrating an enlarged portion "A" of FIG. **1**;

[0011] FIG. **3** is a cross-sectional view illustrating an organic light emitting device according to an exemplary embodiment of the present disclosure;

[0012] FIG. **4** is a cross-sectional view illustrating part of an organic light emitting device according to an exemplary embodiment of the present disclosure;

[0013] FIG. **5** is a flowchart illustrating a method for manufacturing an organic light emitting device according to an exemplary embodiment of the present disclosure; and

[0014] FIG. **6** and FIG. **7** are cross-sectional views illustrating a method for manufacturing an organic light emitting device according to an exemplary embodiment of the present disclosure.

DETAILED DESCRIPTION

[0015] The present invention will be described more fully hereinafter with reference to the accompanying drawings, in which exemplary embodiments of the invention are shown. As those skilled in the art would realize, the described embodiments may be modified in various different ways, all without departing from the spirit or scope of the present invention.

[0016] The same reference numerals may be used to designate similar or identical elements throughout the disclosure and the several figures.

[0017] In the drawings, the thickness of layers, films, panels, regions, etc., may be exaggerated for clarity. When it is said that any part, such as a layer, film, region, or plate, is positioned on another part, it means the part is directly on the other part or above the other part with at least one intermediate part disposed therebetween.

[0018] An organic light emitting device according to an exemplary embodiment of the present disclosure will now be described with reference to FIG. **1** and FIG. **2**.

[0019] FIG. **1** is a cross-sectional view illustrating an organic light emitting device according to an exemplary embodiment of the present disclosure.

[0020] As shown in FIG. **1**, the organic light emitting device **1000** includes a substrate **100**, an organic light emitting diode (OLED) **200**, a thin film encapsulation layer **300**, and an organic passivation layer **400**.

[0021] The substrate **100** may be flexible, for example, the substrate **100** may be a film-type substrate including an organic material such as polyimide. The substrate **100** may be an insulating substrate including glass or metal. A driving layer including a plurality of thin film transistors may be connected to the organic light emitting diode **200**. The driving layer may be disposed on the substrate **100**, and the driving layer may have various configurations.

[0022] The organic light emitting diode **200** includes two electrodes facing each other, and an organic emission layer disposed between the two electrodes. The organic emission layer may emit light. At least one of the two electrodes may be a light transmissive electrode or a light semi-transmissive electrode. The light emitted by the organic emission layer may transmit through the light transmissive electrode or the light semi-transmissive electrode. The organic light emitting diode **200** may have various configurations.

[0023] FIG. **2** is a cross-sectional view illustrating an enlarged portion "A" of FIG. **1**.

[0024] As shown in FIG. **2**, the thin film encapsulation layer **300** is provided on the substrate **100** with an organic light emitting diode **200** disposed therebetween. The thin film encapsulation layer **300** seals the organic light emitting diode **200** together with the substrate **100**. The thin film encapsulation layer **300** includes at least one organic layer disposed on the organic light emitting diode **200** and at least one inorganic layer disposed on the organic light emitting diode **200**. The thin film encapsulation layer **300** includes a first organic layer **311**, a second organic layer **312**, a third organic layer **313**, a first inorganic layer **321**, a second inorganic layer **322**, and a third inorganic layer **323**.

[0025] The first inorganic layer **321** is disposed between the first organic layer **311** and the second organic layer **312**, the second inorganic layer **322** is disposed between the second organic layer **312** and the third organic layer **313**, and the third inorganic layer **323** is disposed on the third organic layer **313**. For example, an inorganic layer is disposed between neighboring organic layers from among a plurality of organic layers. Further, an organic layer is disposed between neighboring inorganic layers from among a plurality of inorganic layers.

[0026] The third inorganic layer **323** is disposed on an uppermost layer of the thin film encapsulation layer **300**. An organic layer may be disposed on the uppermost payer of the thin film encapsulation layer **300**.

[0027] The first organic layer **311**, the second organic layer **312**, and the third organic layer **313** may respectively include an organic material. The first organic layer **311**, the second organic layer **312**, and the third organic layer **313** may each include a single layer or may include multiple layers, including polyethylene terephthalate, polyimide, polycarbonate, epoxy, polyethylene, and/or polyacrylate.

[0028] The first inorganic layer **321**, the second inorganic layer **322**, and the third inorganic layer **323**, may each include an inorganic material. The first inorganic layer **321**, the second inorganic layer **322**, and the third inorganic layer **323** may each include a single layer or may each include multiple layers including a silicon nitride (SiN_x), an aluminum oxide (Al_2O_3), a silicon oxide (SiO_2), and/or a titanium oxide (TiO_2).

[0029] The organic passivation layer **400** is disposed on the thin film encapsulation layer **300**. The organic passivation layer **400** protects the thin film encapsulation layer **300**. The organic passivation layer **400** directly contacts the thin film encapsulation layer **300**. The organic passivation layer **400** directly contacts the third inorganic layer **323** disposed on the uppermost layer of the thin film encapsulation layer **300**. No adhesive layer is disposed between the organic passivation layer **400** and the third inorganic layer **323**. For example, the adhesive layer is not disposed between the organic passivation layer **400** and the thin film encapsulation layer **300**.

[0030] The organic passivation layer **400** is thicker than the thin film encapsulation layer **300**. The organic passivation layer **400** is thicker than each of the first organic layer **311**, the second organic layer **312**, and the third organic layer **313** of the thin film encapsulation layer **300**. For example, the organic passivation layer **400** may be 50 um to 500 um thick, but the organic passivation layer **400** is not limited to this particular thickness. For example, the organic passivation layer **400** may be 70 um to 100 um thick.

[0031] The organic passivation layer **400** may be different from each of the first organic layer **311**, the second organic layer **312**, and the third organic layer **313** of the thin film encapsulation layer **300**. The organic passivation layer **400** may be different from the thin film encapsulation layer **300**.

[0032] The organic passivation layer **400** that is thicker than the thin film encapsulation layer **300** covers the thin film encapsulation layer **300**, thereby suppressing the thin film encapsulation layer **300** from being broken.

[0033] The organic passivation layer **400** is deposited on a surface of the thin film encapsulation layer **300** by using a deposition process such as a chemical vapor deposition (CVD) process.

[0034] According to an exemplary embodiment of the present disclosure, the organic passivation layer **400** may be deposited on the surface of the thin film encapsulation layer **300** by using a different deposition process such as an atomic layer deposition (ALD) process.

[0035] The conventional organic light emitting device positions the adhesive layer on the surface of the thin film encapsulation layer and attaches a passivation film to the thin film encapsulation layer by using the adhesive layer so as to protect the thin film encapsulation layer.

[0036] However, the organic light emitting device **1000** according to an exemplary embodiment of the present disclosure may be thinner than the conventional organic light emitting device since no adhesive layer is disposed between the organic passivation layer **400** and the thin film encapsulation layer **300** and the organic passivation layer **400** directly contacts the thin film encapsulation layer **300**.

[0037] For example, the organic light emitting device **1000** that protects the thin film encapsulation layer **300** may be relatively thin.

[0038] Further, the organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, 21 may prevent impurities from infiltrating into the surface of the thin film encapsulation layer **300** during the deposition process since the organic passivation layer **400** is not attached to the surface of the thin film encapsulation layer **300** by the adhesive layer but rather is deposited on the surface of the thin film encapsulation layer **300**.

[0039] For example, compared to the conventional organic light emitting device, the organic light emitting device **1000** preventing impurities from infiltrating into the surface of the thin film encapsulation layer **300** is provided.

[0040] The organic passivation layer **400** has a smaller Young's modulus than the thin film encapsulation layer **300**. The organic passivation layer **400** may have a smaller Young's modulus than each of the first organic layer **311**, the second organic layer **312**, and the third organic layer **313** of the thin film encapsulation layer **300**. The organic passivation layer **400** includes an organic material that is different from each of the first organic layer **311**, the second organic layer **312**, and the third organic layer **313** of the thin film encapsulation layer **300**. The organic passivation layer **400** may include poly-para-xylylene, polyvinylidene fluoride, polymethylsiloxane, polybutadiene, polymethylmethacrylate, polyacrolein, and/or polydivinylbenzene.

[0041] The organic light emitting device **1000** according to an exemplary embodiment may include an organic passivation layer **400** that has a smaller Young's modulus than the thin film encapsulation layer **300** to reduce the Young's modulus of the entire organic light emitting device **1000**, thereby increasing flexibility of the organic light emitting device **1000**.

[0042] For example, the increased-flexibility organic light emitting device **1000** is provided.

[0043] Regarding the conventional organic light emitting device, an adhesive layer is disposed between the thin film encapsulation layer and the passivation film. The adhesive layer includes a flexible material such as silicone, polyurethane, and acryl, and has a small Young's modulus.

[0044] However, regarding the organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a larger Young's modulus than the conventional adhesive layer.

[0045] A yield stress of one configuration is proportional to the Young's modulus of one configuration, which will now be described.

[0046] The yield stress of one configuration corresponds to Equation 1.

$$\Delta\sigma_y = Gb\sqrt{\rho} \quad \text{[Equation 1]}$$

Here, σ_y is a yield stress, G is a shear modulus, b is a magnitude of the Burgers vector, and ρ is a dislocation density.

[0047] According to Equation 1, the yield stress of one configuration is proportional to the shear modulus.

[0048] The shear modulus of one configuration corresponds to Equation 2.

$$E = 2G(1+v) = 3K(1-2v) \quad \text{[Equation 2]}$$

[0049] Here, E is a Young's modulus, G is a shear modulus, K is a bulk modulus, and v is a Poisson's ratio.

[0050] Regarding Equation 2, the shear modulus of one configuration is proportional to the Young's modulus.

[0051] In consideration of Equation 1 and Equation 2, the yield stress of one configuration is proportional to the shear modulus in Equation 1 and the shear modulus of one configuration is proportional to the Young's modulus in Equation 2, so the yield stress of one configuration is proportional to the Young's modulus of one configuration.

[0052] As described, regarding the organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a larger Young's modulus than the conventional adhesive layer so the Young's modulus of the entire organic light emitting device **1000** according to an exemplary embodiment of the present disclosure is larger than that of the conventional organic light emitting device, thereby increasing the yield stress, compared to the conventional organic light emitting device.

[0053] Accordingly, the adhesive layer is not disposed between the organic passivation layer **400** and the thin film encapsulation layer **300** and so the organic passivation layer **400** directly contacts the thin film encapsulation layer **300**. Accordingly, the organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, is manufactured to be thinner than the conventional organic light emitting device.

[0054] For example, the organic light emitting device **1000** is able to protect the thin film encapsulation layer **300** and is manufactured to be thinner than conventional organic light emitting devices.

[0055] Further, regarding the organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** is not attached to the surface of the thin film encapsulation layer **300** by an adhesive layer but rather is deposited on the surface of the thin film encapsulation layer **300**, thereby preventing impurities from infiltrating the surface of the thin film encapsulation layer **300** during the deposition process.

[0056] For example, compared to the conventional organic light emitting device, the organic light emitting device **1000** preventing impurities from infiltrating the surface of the thin film encapsulation layer **300** is provided.

[0057] In addition, regarding the organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a larger Young's modulus than the conventional adhesive layer so the Young's modulus of the entire organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, is larger than that of the conventional organic light emitting device, thereby increasing the yield stress, compared to the conventional organic light emitting device.

[0058] For example, the yield stress-increased organic light emitting device **1000** is provided. The yield stress of the organic light emitting device **1000** is increased, thereby preventing the organic light emitting device **1000** from being permanently deformed by an external stress.

[0059] Further, regarding the organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a smaller Young's modulus than the thin film encapsulation layer **300** to reduce the Young's modulus of the organic light emitting device **1000**, thereby increasing flexibility of the organic light emitting device **1000**.

[0060] For example, the flexibility-increased organic light emitting device **1000** is provided.

[0061] An organic light emitting device according to an exemplary embodiment of the present invention will now be described with reference to FIG. **3** and FIG. **4**.

[0062] FIG. **3** shows a cross-sectional view of an organic light emitting device according to an exemplary embodiment of the present invention.

[0063] As shown in FIG. **3**, a thin film encapsulation layer **300** of an organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, includes an inorganic layer disposed on an organic light emitting diode **200**. The thin film encapsulation layer **300** may be a single layer or it may be multiple layers, any layer of which including a silicon nitride (SiN_x), an aluminum oxide (Al_2O_3), a silicon oxide (SiO_2), and/or a titanium oxide (TiO_2).

[0064] The organic passivation layer **400** is disposed on the thin film encapsulation layer **300**. The organic passivation layer **400** protects the thin film encapsulation layer. The organic passivation layer **400** directly contacts the thin film encapsulation layer **300**. An adhesive layer is not disposed between the organic passivation layer **400** and the thin film encapsulation layer **300**.

[0065] The organic passivation layer **400** has a smaller Young's modulus than the thin film encapsulation layer **300**.

[0066] The organic passivation layer **400** is deposited on a surface of the thin film encapsulation layer **300**.

[0067] The organic passivation layer **400** is thicker than the thin film encapsulation layer **300** including an inorganic layer.

[0068] As described above, no adhesive layer is disposed between the organic passivation layer **400** and the thin film encapsulation layer **300** and the organic passivation layer **400** directly contacts the thin film encapsulation layer **300** so the organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, is thinner than the conventional organic light emitting device.

[0069] In an organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** is not attached to the surface of the thin film encapsulation layer **300** by an adhesive layer but is rather deposited directly onto the surface of the thin film encapsulation layer **300**, thereby preventing the infiltration of impurities into the surface of the thin film encapsulation layer **300** during the deposition process.

[0070] In an organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a larger Young's modulus than the conventional adhesive layer so the Young's modulus of the organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, is larger than that of the conventional organic light emitting device, thereby increasing the yield stress compared to the conventional organic light emitting device.

[0071] In an organic light emitting device **1000** according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a smaller Young's modulus than the thin film encapsulation layer **300** to reduce the Young's modulus of the organic light emitting device **1000**, thereby increasing flexibility of the organic light emitting device **1000**.

[0072] FIG. **4** shows a cross-sectional view of part of an organic light emitting device according to an exemplary embodiment of the present disclosure.

[0073] As shown in FIG. **4**, the thin film encapsulation layer **300** of the organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, includes an organic layer disposed on the organic light emitting diode **200**. The thin film encapsulation layer **300** may be a single layer or may include multiple layers, each layer of which may include polyethylene terephthalate, polyimide, polycarbonate, epoxy, polyethylene, and/or polyacrylate.

[0074] The organic passivation layer **400** is disposed on the thin film encapsulation layer **300**. The organic passivation layer **400** protects the thin film encapsulation layer **300**. The organic passivation layer **400** directly contacts the thin film encapsulation layer **300**. An adhesive layer is not disposed between the organic passivation layer **400** and the thin film encapsulation layer **300**.

[0075] The organic passivation layer **400** has a smaller Young's modulus than the thin film encapsulation layer **300**.

[0076] The organic passivation layer **400** is deposited on the surface of the thin film encapsulation layer **300**.

[0077] The organic passivation layer **400** is thicker than the thin film encapsulation layer **300** including an organic layer.

[0078] Accordingly, the adhesive layer is not disposed between the organic passivation layer **400** and the thin film encapsulation layer **300**, and the organic passivation layer **400** directly contacts the thin film encapsulation layer **300** so the organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, is manufactured to be thinner than the conventional organic light emitting device.

[0079] In an organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** is not attached to the surface of the thin film encapsulation layer **300** by an adhesive layer but is rather deposited directly on the surface of the thin film encapsulation layer **300**, thereby preventing infiltration of impurities into the surface of the thin film encapsulation layer **300** during the deposition process.

[0080] In an organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a larger Young's modulus than the conventional adhesive layer so the Young's modulus of the entire organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, is larger than that of the conventional organic light emitting device, thereby increasing the yield stress, compared to the conventional organic light emitting device.

[0081] In an organic light emitting device **1000**, according to an exemplary embodiment of the present disclosure, the organic passivation layer **400** has a smaller Young's modulus than the thin film encapsulation layer **300** to reduce the Young's modulus of the organic light emitting device **1000**, thereby increasing flexibility of the organic light emitting device **1000**.

[0082] A method for manufacturing an organic light emitting device according to an exemplary embodiment of the present disclosure will now be described with reference to FIG. **5** to FIG. **7**.

[0083] FIG. **5** is a flowchart illustrating a method for manufacturing an organic light emitting device according to an exemplary embodiment of the present disclosure. FIG. **6** and FIG. **7** are cross-sectional views illustrating a method for manufacturing an organic light emitting device according to an exemplary embodiment of the present disclosure.

[0084] As shown in FIG. **5** and FIG. **6**, an organic light emitting diode **200** is disposed on a substrate **100** (S100).

[0085] A sacrificial layer **20** is disposed on a supporting substrate **10** that may include glass, and a substrate **100** is disposed on the sacrificial layer **20**. The substrate **100** may be generated by depositing or coating an organic material on the sacrificial layer **20**, but the present invention is not limited thereto. A driving layer including a plurality of thin film transistors is disposed on the substrate **100**, and an organic light emitting diode **200** is disposed on the driving layer.

[0086] A thin film encapsulation layer **300** is generated on the substrate **100** (S200).

[0087] The thin film encapsulation layer **300** is disposed on the substrate **100** by using a deposition process. The thin film encapsulation layer **300** may be generated by sequentially depositing at least one organic layer and at least one inorganic layer on the substrate **100**.

[0088] As shown in FIG. **7**, an organic passivation layer **400** (S300) is generated on the surface of the thin film encapsulation layer **300**.

[0089] The organic passivation layer **400** is deposited on the surface of the thin film encapsulation layer **300** to generate the organic passivation layer **400** on the surface of the thin film encapsulation layer **300** in a same chamber in which the thin film encapsulation layer **300** is generated. The deposition of the organic passivation layer **400** may be performed by use of a chemical vapor deposition (CVD) process. The organic passivation layer **400** may be deposited on the surface of the thin film encapsulation layer **300** by using an organic material having a smaller Young's modulus than that of the thin film encapsulation layer **300**.

[0090] The organic passivation layer **400** is deposited on the surface of the thin film encapsulation layer **300** by the deposition process rather than in an attaching process that uses an adhesive layer in the same chamber in which the thin film encapsulation layer **300** is generated. Accordingly, infiltration of impurities into the surface of the thin film encapsulation layer **300** during the deposition process may be controlled.

[0091] For example, the method for manufacturing an organic light emitting device controlling infiltration of impurities into the surface of the thin film encapsulation layer **300** is provided.

[0092] The sacrificial layer **20** may be removed by use of laser beams, heat, or solutions to separate the organic light emitting device **1000** from the supporting substrate **10**, thereby manufacturing the organic light emitting device **1000**.

[0093] While exemplary embodiments of the present disclosure have been described with reference to the figures, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the present disclosure.

What is claimed is:

1. An organic light emitting device comprising:
a substrate;
an organic light emitting diode disposed on the substrate;
a thin film encapsulation layer disposed over the organic light emitting diode, the thin film encapsulation layer including at least one organic layer; and
an organic passivation layer disposed directly on the thin film encapsulation layer,
wherein the organic passivation layer has a smaller Young's modulus than the organic layer of the thin film encapsulation layer.

2. The organic light emitting device of claim **1**, wherein the organic passivation layer is thicker than the thin film encapsulation layer.

3. The organic light emitting device of claim **1**, wherein the organic passivation layer is thicker than the organic layer.

4. The organic light emitting device of claim **1**, wherein the organic passivation layer includes an organic material that is different from the at least one organic material of the organic layer.

5. The organic light emitting device of claim **4**, wherein the organic passivation layer includes at least one of poly-para-xylylene, polyvinylidene fluoride, polymethylsiloxane, polybutadiene, polymethyl methacrylate, polyacrolein, and polydivinylbenzene.

6. The organic light emitting device of claim **1**, wherein the thin film encapsulation layer further includes at least one inorganic layer disposed on the organic light emitting diode.

7. The organic light emitting device of claim **6**, wherein
The inorganic layer is disposed on an uppermost layer of the thin film encapsulation layer, and
the organic passivation layer directly contacts the inorganic layer.

8. The organic light emitting device of claim **6**, wherein
the inorganic layer is disposed in plural, and
the organic layer is disposed between neighboring inorganic layers from among the plurality of inorganic layers.

9. The organic light emitting device of claim **1**, wherein the organic passivation layer is deposited on a surface of the thin film encapsulation layer.

10. The organic light emitting device of claim **1**, wherein no adhesive layer is disposed between the thin film encapsulation layer and the organic passivation layer.

11. The organic light emitting device of claim **1**, wherein the substrate is flexible.

12. A method for manufacturing an organic light emitting device, comprising:
disposing an organic light emitting diode on a substrate;
disposing a thin film encapsulation layer over the organic light emitting diode and the substrate; and
depositing an organic passivation layer, having a smaller Young's modulus than that of the thin film encapsulation layer, on a surface of the thin film encapsulation layer.

13. The method of claim **12**, wherein
the depositing of the organic passivation layer is performed by a chemical vapor deposition (CVD) process.

14. The method of claim **12**, wherein
the disposing of the thin film encapsulation layer and the disposing of the organic passivation layer are performed in a same chamber.

15. An organic light emitting device, comprising:
a flexible substrate;
a thin film encapsulation layer disposed on the flexible substrate;
an organic light emitting diode encapsulated between the thin film encapsulation layer and the flexible substrate; and
an organic passivation layer disposed over the thin film encapsulation layer,
wherein the thin film encapsulation layer is more elastic than the organic passivation layer.

16. The organic light emitting device of claim **15**, wherein the thin film encapsulation layer includes an organic layer and the organic layer of the thin film encapsulation layer is more elastic than the organic passivation layer.

17. The organic light emitting device of claim **16**, wherein the organic passivation layer is thicker than the organic layer.

18. The organic light emitting device of claim **16**, wherein the organic passivation layer includes an organic material that is different from the organic layer.

19. The organic light emitting device of claim **15**, wherein there is no adhesive layer disposed between the organic passivation layer and the thin film encapsulation layer.

20. The organic light emitting device of claim **15**, wherein the organic passivation layer is thicker than the thin film encapsulation layer.

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专利名称(译)	有机发光二极管显示器和制造有机发光二极管显示器的方法		
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摘要(译)

有机发光装置包括基板。有机发光二极管设置在基板上。薄膜封装层设置在有机发光二极管上方。薄膜封装层包括至少一个有机层。有机钝化层直接设置在薄膜封装层上。有机钝化层具有比薄膜封装层的有机层更小的杨氏模量。